

In This Issue—*New Products At A. E. A. Show*

# MOTOR AGE

Vol. XLVIII  
Number 21

PUBLISHED WEEKLY AT 5 SOUTH WABASH AVENUE  
CHICAGO, NOVEMBER 19, 1925

Thirty-five Cents a Copy  
Three Dollars a Year

## WORLD'S GREATEST VALUES



Essex Coach  
**\$765**

Hudson Coach  
**\$1165**

Hudson Brougham \$1450 — Hudson 7-Pass. Sedan \$1650

*All Prices Freight and Tax Extra*

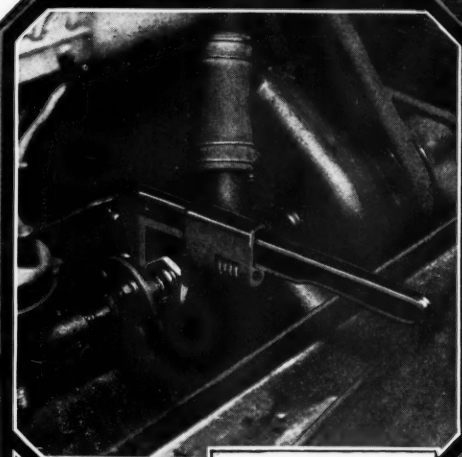
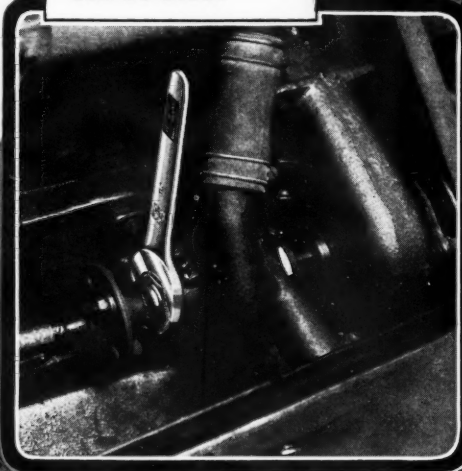
The Outstanding Dealer Opportunity of Motordom

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

# BONNEY Water Pump WRENCHES

**Every Leaking  
Water Pump Means  
A Sale For You**

This shows how easily  
the Bonney "CV"  
Water Pump Wrench  
can be used.



It is practically im-  
possible to use an  
ordinary adjust-  
able wrench in this  
case. The wrench  
will interfere with  
the crank case at  
one end and with  
the hood ledge on  
the other. This is  
typical of many  
cars.

## USE THEM YOURSELF

In the majority of cases it is extremely difficult, and frequently absolutely impossible, to tighten the water pump packing nut with an ordinary wrench. The illustration is an example of the conditions frequently encountered.

## "ASK 'EM TO BUY"

Purchase an assortment of Bonney "CV" Water Pump Packing Nut Wrenches for the most popular cars, particularly the cars which you sell. Then, whenever a customer comes in to have his leaking pump tightened, do the job with a Bonney Wrench and then--SELL HIM THE WRENCH.

The cost to the customer is comparatively small and now that winter is approaching he can save the price of the wrench in alcohol or glycerine alone.

If you will write to us we will send you a schedule showing the sizes and prices of the Bonney Water Pump Packing Nut Wrenches for all of the important makes of cars.

*You can buy them from your own jobber*

**Bonney Forge & Tool Works**  
Allentown, Pa.

Makers of Special Service Wrenches of Chrome Vanadium, Carbon Steel Drop Forged Wrenches, Stillson Wrenches, Vises and Drop Forgings and the Bonney Rim Tool.

# BONNEY

Chrome-**"CV"** Vanadium

# WRENCHES

(Patents Pending)



\*C. V. is a Bonney  
trademark  
registered in the  
U. S. Patent Office  
Chrome Vanadium  
registered  
August 11th, 1925



## THE NEW MOON LINE



### A True Success Story

How would you like to be a distributor who started with a small capital, and in eighteen months was making \$30,000 a month?

This is no idle question. Nor is it a fairy tale. The man is a Moon distributor. We will give you his name, and you can confirm the facts direct.

Of course this man worked hard. Of course he had a system. Of course he had a splendid market. On the other hand, it is known as the most intensively worked, the most notably competitive, time-payment territory in the world.

He attributes his success to the outstanding Moon values plus a system of concentration on the right model at the right time. He says that anyone who can't sell Moons profitably, in competition with any other car on the market, doesn't know the automobile business. He proved it last month by ordering 260 cars.

If you have the ability and the determination, there is no reason why you can't duplicate this man's success—in proportion, of course, to the possibilities of your territory. Write us and find out why and how. It's a story worth knowing.

MOON MOTOR CAR COMPANY, ST. LOUIS, U. S. A.

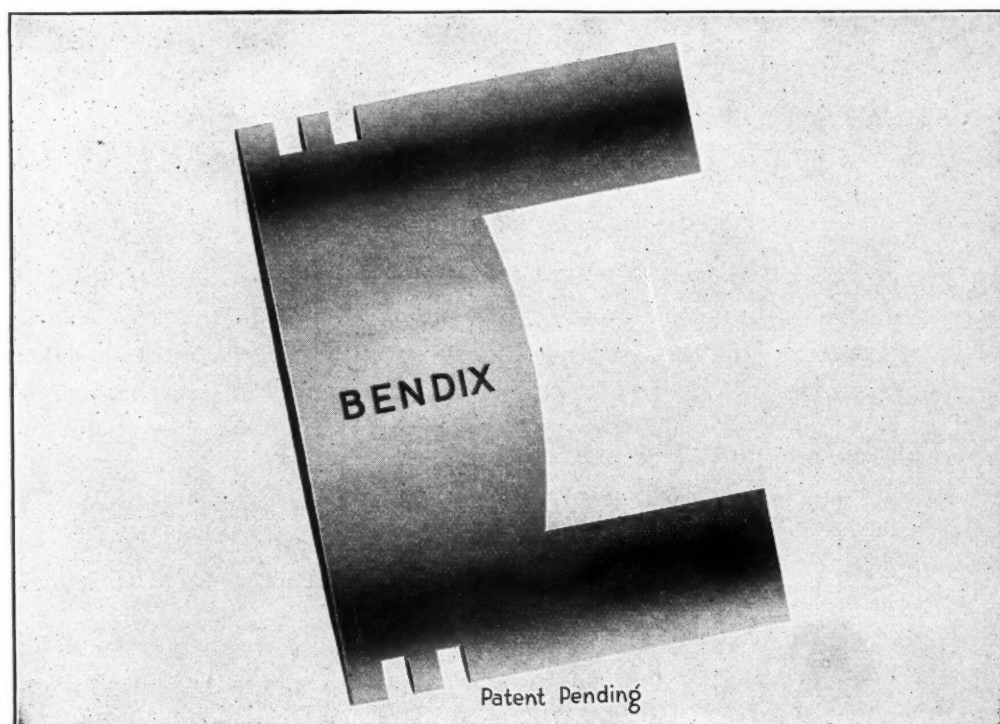
*The* MOON  
"Year Ahead"  
Six

*The* DIANA  
Light  
Straight 8

THE \$75,000,000 COMBINATION LINE

# ECLIPSE

STARTER PRODUCTS



*CAUTION: In our Bendix Drive advertisements, appearing regularly each month in The Saturday Evening Post and The Literary Digest, the public is being cautioned to buy none but genuine parts and to look for the name "Bendix" on each part.*

## No Special Tools Needed

A hammer and a blunt chisel are the only tools needed to install the Eclipse Bendix Repair Sleeve quickly and easily. Four sizes service all models.

It pays to sell none but  
**GENUINE PARTS**

FOR  
**ECLIPSE  
BENDIX  
DRIVE**

**ECLIPSE MACHINE COMPANY, ELMIRA, N.Y.**

ECLIPSE MACHINE COMPANY, Ltd., WALKERVILLE, ONTARIO

ECLIPSE MACHINE COMPANY, HOBOKEN, NEW JERSEY

# MOTOR AGE

Reg. U. S. Pat. Office

Vol. XLVIII

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"Yankee" No. 2000

## Here's the way to cut brake lining The quick, easy "YANKEE" way

When you have a hurry-up lining job, time counts. That's when a "Yankee" Brake Lining Cutter comes in handy.

One stroke of handle cuts the lining cleanly, and quickly. No time lost looking for something to rip it apart.

Not only on fast jobs, but on every lining job day in and out, the convenience of this dependable cutter, is worth while.

## "YANKEE" No. 2000 Cutter

Can be fastened to bench or floor, or mounted on board so it's portable. Lever operates a rack and pinion movement. Knives are highest grade steel. Adjustable in case of wear.

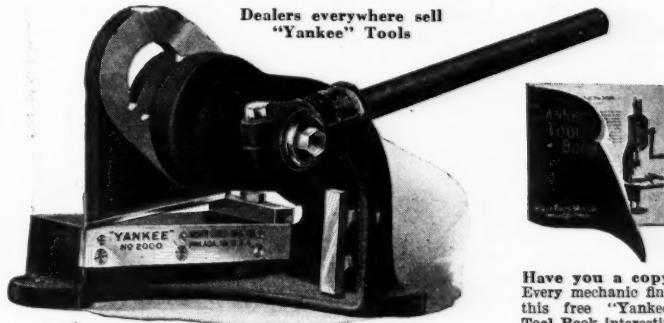
Capacity,  $\frac{3}{8}$  x 6 in. Cuts belting also. Extreme length, 11½ in. Height, closed, 7 in. Open, 8¼ in. Handle length, 13 in. from center. Weight 22 lbs.

### Some other "Yankee" Tools

Ratchet Breast Drills Automatic Feed Chain Drills  
 Ratchet Hand Drills Ratchet Tap Wrenches  
 Automatic Feed Bench Drills Vises, Removable Base

"Yankee" on the tool you buy means the utmost in quality, efficiency and durability.

Dealers everywhere sell  
 "Yankee" Tools

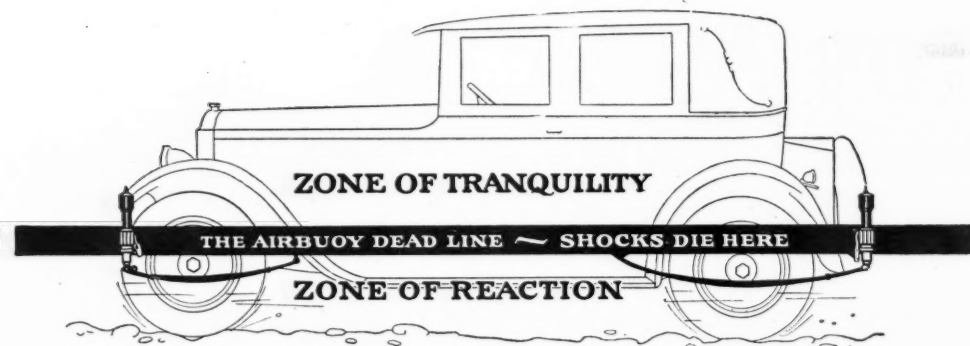


Have you a copy?  
 Every mechanic finds  
 this free "Yankee"  
 Tool Book interesting  
 and profitable. Write  
 for your copy.

NORTH BROS. MFG. CO., Philadelphia, U. S. A.

# "YANKEE" TOOLS

Make Better Mechanics



## Why an Airbuoyed Car Rides Like a Pullman

PULLMAN comfort needs more than steel rails and ballasted roadbeds, more than heavy leaf springs. Above and beyond all these, the car is floated on powerful, reciprocating shock absorbers.

So also with Airbuoyed motor cars. Above and beyond their steel springs and balloon tires, they are steadily balanced on compressed air, regulated and controlled by hydraulic power. Every one of the four channels, through which road-shock reactions may reach the frame, is guarded by an Airbuoy. And in the Airbuoys those reactions are not only arrested; they are eliminated.

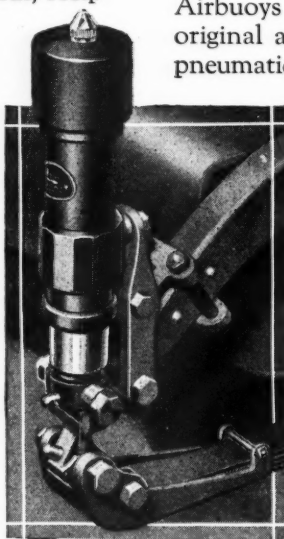
Below the Airbuoys are the springs, axles, wheels and tires—bouncing, bending, twisting and shimmying. Above the Airbuoys

is the car frame, supporting chassis, engine and body—all smoothly gliding along—their balance constantly maintained.

Airbuoys are a further development of the original air-springs for automobiles. Their pneumatic-hydraulic operation (air and oil) combines the extremes of elasticity and power. Their simple sturdy construction—no springs, ratchets, belts or cables—assures a long life at highest efficiency.

Transferred from old car to new one, they operate perfectly for hundreds of thousands of miles.

Mile for mile, Airbuoys are the most economical shock eliminators obtainable. And in actual performance they surpass equipment costing more than twice their price.



### DISTRIBUTORS

To Distributors who appreciate, and can adequately represent a product with all the elements of unquestioned leadership, we can offer a profitable and permanent relationship in territories not already closed.

THE RELIANCE MANUFACTURING CO., 61 Foote St., New Haven, Conn.

### GENERAL DISTRIBUTORS

Standard  
List Price

**\$125**

set of four  
installed

NEW YORK  
Veedan Air Spring Co., Inc.  
309 West 66th Street

NEW HAVEN  
Shock Absorber Sales Co.  
336 York Street

BOSTON  
Reliance Sales Corp. of N. E.  
186 Brookline Avenue

PROVIDENCE, R. I.  
The John B. Lavalle Co.  
69 Elm Grove Avenue

CHICAGO  
Airbuoy Company of Illinois  
2626 South Parkway

ROCHESTER, N. Y.  
Kiefer-Reliance Air Spring Co.  
135 Pierpont Street

**A lasting  
investment**

—transfer them  
from old car to  
new one

# Airbuoys

TRADE MARK REG. U. S. PAT. OFF.

Use this  
coupon

THE RELIANCE MFG. CO., Dept. A., 61 Foote St., New Haven, Conn.  
Please send me details of the Airbuoy distributorship.

Name \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

# How Studebaker Sells the Public on the Dealer as well as on the Car

THE SATURDAY EVENING POST

Nov. 21, 1925

## Pledge to the Public on Used Car Sales

### A Man you ought to know

*he sells both new and used cars in a business-like way*

**I**N your city—perhaps just around the corner from where you work or live—there is a man of sound business integrity you ought to know.

He's the Studebaker dealer in your community—a man who sells both new and used cars in a business-like way.

When you buy a car from a Studebaker dealer you can place confidence in what he tells you—you can have faith in the merchandise he offers.

And his interest does not cease when you have paid your money and the transaction is completed. His courteous, intelligent, friendly service continues.

He goes out of his way to make sure that Studebaker service is as fine as Studebaker cars. He wants you to receive in full measure the great dependability, the remarkable stamina and the excess mileage that is built into all Studebakers at the factory.

To this end he maintains a stock of genuine Studebaker parts.

He has installed specially designed Studebaker tools that will save both time and money for you.

And you will find that many of the mechanics who are working in these Studebaker Service Stations have received special training in the factory service school in South Bend.

#### Not merely "satisfied" but "enthusiastic"

But beyond these matters of detail is the strong character of Studebaker dealers themselves—their friendliness and square dealing methods—their determination that every Studebaker owner must not only be satisfied but enthusiastic.

No better proof of this can be given than the Used Car Pledge that Studebaker dealers have adopted.

The pledge speaks for itself. It enables you to buy a fine used car with the same confidence and safety you enjoy when buying a new Stude-

baker. We print the pledge below. Read it and note the high business principles that actuate its policy.

#### Studebaker Dealers' Pledge

1. All used cars offered to the public shall be honestly represented.

If a car is suitable only for a mechanic who can rebuild it, or for someone who expects only a few months' rough usage on a camping trip, it must be sold on that basis. Each car must be sold for just what it is.

2. All Studebaker automobiles which are sold as *Certified Cars* have been properly reconditioned, and carry a 30-day guarantee for replacement of defective parts and free service on adjustments.

This is possible because tremendous reserve mileage has been built into every Studebaker, which it is impossible to exhaust in years.

3. Every used car is conspicuously marked with its price in plain figures, and that price, just as the price of our new cars, is rigidly maintained.

The public can deal in confidence and safety only with the dealer whose policy is "one price only—the same price to all." For, to sell cars on this basis, every one of them must be honestly priced to begin with.

4. Every purchaser of a used car may drive it for five days, and then, if not satisfied for any reason, turn it back and apply the money paid as a credit on the purchase of any other car in stock—new or used.

It is assumed, of course that the car has not been smashed up by collision or other accident in the meantime.

#### Selling Unused Transportation

**C**OULD the business of selling used cars be made squarer—safer? And what could more positively guarantee that the used car you buy will give you a big money's worth in unused transportation?

Perhaps you wonder why it is that Studebaker dealers can make the remarkable guarantee shown in point number two of the pledge.

It is because Studebaker is the only one-profit car in the quality field—the only car which has all bodies, all engines, all axles, clutches, gear sets, springs, differentials, steering gears, gray iron castings and drop forgings designed, engineered and manufactured by one organization.

Studebaker demands such high quality in steel, wood, upholstery and other materials, and maintains such high standards of precision that scores of thousands of miles of excess transportation are assured to owners of any Studebaker car—new or used.

Furthermore, the Studebaker policy of "No-Yearly-Models" is an additional protection to owners. Under this policy Studebaker cars are always up to date—we add improvements from time to time and do not save them up for spectacular annual announcements which make cars artificially obsolete.

Regardless of what type of car you are considering—a used car of any make or a new One-Price Studebaker—it will pay you to see the Studebaker dealer first.

He will sell you a car in a business-like way—and finance its purchase on a fair and liberal Budget Payment Plan if you desire.

THE STUDEBAKER CORPORATION OF AMERICA • South Bend, Indiana



*Nash Leads the World in Motor Car Value*

# *October Sees Nash Set 14th Consecutive Record-Breaking Month*

*The ball keeps rolling!* Again Nash hangs up a new production-record.

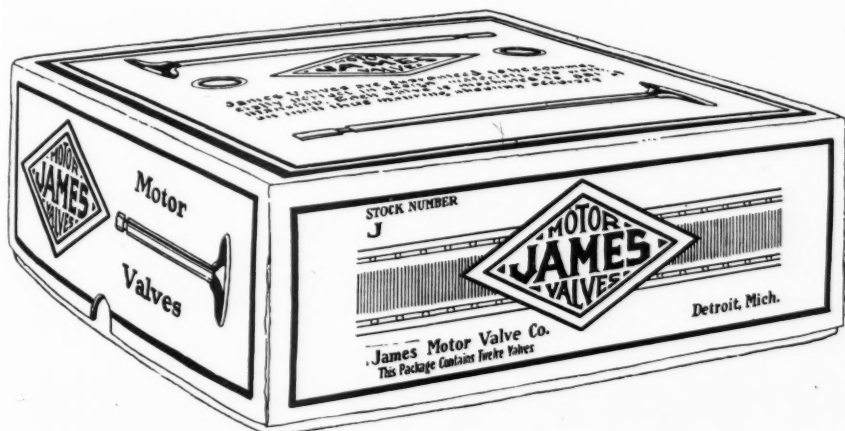
October has proved to be the 14th straight-running month in which more Nash cars were shipped than in the corresponding month of the preceding year.

And October has also swelled Nash sales for the first ten months of 1925 to a 35% greater total than sales for the full 12 months' of our best previous year.

And now as a direct result of this greatly growing business, Nash has found it possible, effective November 1, to further inspire demand with heavily reduced prices.

*Here's a real opportunity!* The man with a Nash contract today has a wide-open road toward a *flourishing market* and *exceptionally generous returns*.

(2556)  
**NASH**



## Handling Valve Repair Jobs At More Than a Profit

Any man who expects to stay in the garage and repair business has got to make more than profits—he's got to make friends.

The majority of garage and repair men know this.

And they're the ones who see the logic of installing complete sets of James Motor Valves instead of re-grinding the old valves.

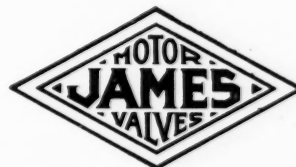
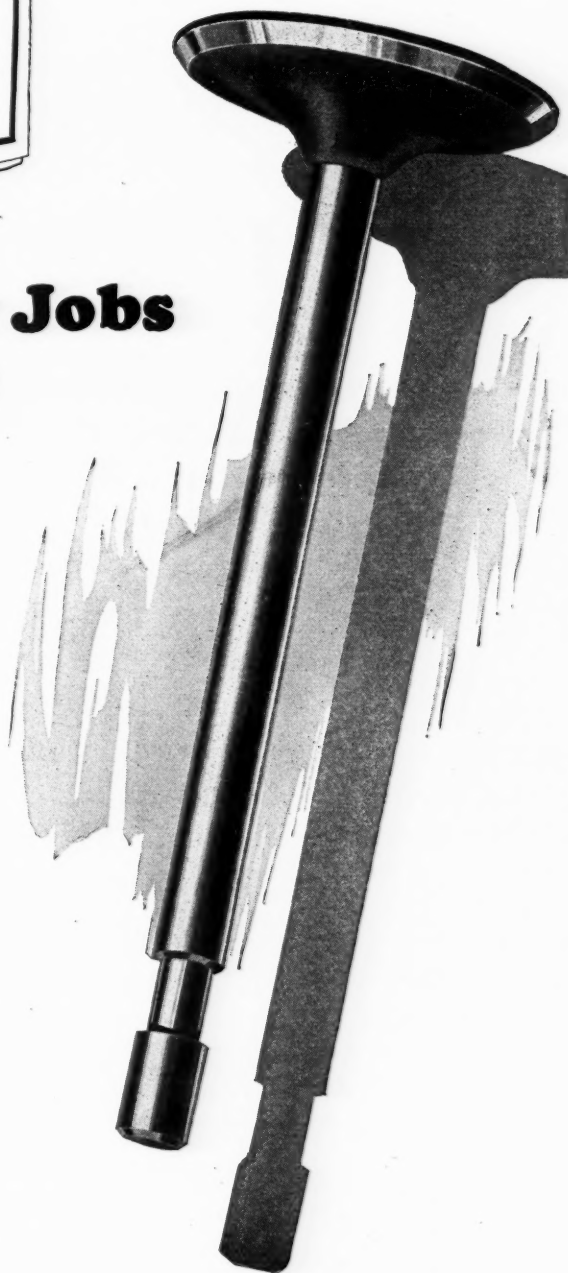
Here's why.

A complete new set of valves *guarantees* not only a better job at the start—but a job that will deliver results for a good many more thousands of miles.

A complete new set of James Valves actually costs the car owner very little more than re-grinding—there's less labor for you—its an easier and quicker job to put them in—and profits are bigger.

But most of all—you have a satisfied customer—a man who will say a good word for the way you take care of him—and that's the thing that builds successful businesses.

You will have made more than a profit—you will have made a friend. Think it over.



**JAMES MOTOR VALVE COMPANY**

1314 Maple Street

Detroit, Michigan





# TERRITORY

Chrysler does not make dealer appointments merely to increase the number of its sales outlets. Granting of our franchise is the result of a thorough knowledge of territorial conditions—the number of cars that can be absorbed, and their profit possibilities. Dealers are appointed only where we feel they can make a worthwhile profit. It is this policy which accounts in large measure for the startling success of Chrysler and Chrysler dealers everywhere. Its continuance as the basis of our dealer relationship is turning more and more of the country's soundest motor car merchants to the Chrysler franchise. It is to your advantage to file your application today. It will be held in strictest confidence.

- No. 1—Profit
- No. 2—Product
- No. 3—Sales Features
- No. 4—Policy
- No. 5—Growth
- No. 6—Co-operation
- No. 7—Territory

*A notable product, high quality, obvious value, factory co-operation, liberal policies, high resale value—these are the fundamentals of a successful and profitable dealership. Watch for the Chrysler comments on these all-important phases of your business. This is the seventh of a series of important messages whose titles appear in the margin. Those which have gone before are well worth your reading. We will gladly send you copies of the entire series to date.*

CHRYSLER SALES CORPORATION, DETROIT, MICH.  
CHRYSLER CORPORATION OF CANADA, LIMITED, WINDSOR, ONTARIO

# CHRYSLER

## SIX ~ FOUR

# MOTOR AGE

Vol. XLVIII

Chicago, November 19, 1925

No. 21

*Summary and Index of Important Events in*

## This Week's Automotive News

*Detailed Stories from MOTOR AGE Staff Writers and Special Correspondents Appear in News Section Beginning on Page 32*

**A**UTOMOTIVE manufacturers begin retrenching as sales volume starts to decline. Dealers report stocks low and declare Christmas campaigns will be big boost. Page 32.

Delage refuses to race in French Grand Prix next year. Says new 91½-inch cars are too dangerous and serve no good purpose. Page 42.

Thompson Research Laboratories developing carbon monoxide consumer to be used also as car and bus heater. Page 35.

Chrysler insurance plan is upheld in New York federal district court and state superintendent is enjoined from revoking license. Page 35.

Space details now arranged and exhibitors are making plans for booth decorations and number of cars to be displayed at big national shows in New York and Chicago. Page 36.

Benjamin Cram, automobile economist, sees more buying and even greater production in 1926 than in 1925. Page 36.

House ways and means committee in Washington votes to recommend reduction in automobile, truck and accessory war taxes. Page 37.

Florida automobile dealers are now receiving cars shipped to border towns in Georgia and driven across line. Page 37.

**A**MBITIOUS plans for expansion are voted at Automotive Equipment Association convention. Show is greatest ever held from business standpoint. Page 33.

Tom Milton wins Armistice Day race at Charlotte speedway. Page 43.

All October business records are broken in Cleveland by dealers and builders. Page 43.

Unusual color schemes are featured at annual automobile salon in New York. Page 37.

Oakland breaks all former production records in October with output of 8,088 cars. Page 39.

American race records may be given European recognition as result of decision by international association. Page 39.

Necessity of increased trade interest in national automobile shows is emphasized by Manager Sam Miles. Page 38.

Dodge Brothers sets new mark in sales and profit for first nine months of 1925. Page 38.

Tire makers see no hope of decline in prices, as result of continuing firm price of spot rubber. Page 38.

National Standard Parts Association opens show and convention in Chicago. Page 32.

*In Next Week's Issue—Capitalizing Your Plus Profits.*



Main hall of Coliseum, seventh annual show of Automotive Equipment Association

## A. E. A. Show Reveals Progress in Design of Accessories and Equipment

**T**HE trend in modern automotive equipment finds a parallel in that of modern automotive design wherein radical changes have been superseded by improvement in detail.

It is possible, indeed, to apply to a good many things which faithfully year after year make their appearances at national shows that well known expression of one motor car builder "Constantly improved but no yearly models."

What is true in the designing and building of automobiles is also true of the accessories, fitments and machinery that play their part in the evolution of the great automotive industry in all its phases.

It is quite evident that modern automobile design is standardized to such an extent that radical changes are the exception. To-day we see refinement; a polishing up of details. More colorful bodies. Usefulness.

Exactly so in automobile accessories and shop equipment. There are new things, of course, but many of these are only the result of constant endeavors to improve former designs and add to their usefulness.

### *Old Timers Are Present*

"What's new at the show?" we ask. And many of us pass rows and rows of the exhibits and say half heartedly "Nothing much, same line of stuff." We forget sometimes in memory of frills of former shows the "constantly improved but no yearly model" slogan.

We forget many of the companies exhibiting at the seventh annual show of the Automotive Equipment Association in Chicago last week have been in business many years with a product or products that have stood the test of time and in many cases have been but little changed

since their inception. They have proved their usefulness.

Novelties come and go, but the practical things stay.

And so in gazing back upon this show we are tempted to take our hats off, first, to the old timers who consistently exhibit year after year with practical and sound merchandise and, secondly, to the younger concerns who are in step with modern trends for useful things and who exhibit equipment that commands respect from the trade.

### *Trend Toward Colors*

A superficial examination of the things shown last week reveals quite forcibly the trend towards colors in automotive equipment of every kind.

Just as the motor car makers have seen fit to finish their cars in colors rather than plain black, so have the accessory makers adopted colors for their products. It is true also of the makers of shop equipment.

The accessory maker is right on the job to match the car makers' products. Where a car maker finishes some of his cars, let us say, in a certain shade of brown, we find bumper manufacturers on the job with a bumper finished in exactly the same shade to match. Trends in accessories follow those of car design. The Buckeye Brass & Mfg. Co., Cleveland, for example, displayed a line of bumpers in a variety of bright colors to match current models of passenger cars.

Color also is used in the merchandising of things not always so readily gazed upon as a car or bumper. There was at the show a maker of hand tire pumps, the Neora Mfg. Co., Waterbury, Conn., with a line of pumps attractively finished in bright colors such as red, blue and gray. This was not done to match a particular make

of car, but to furnish a ready appeal when the car owner comes into the dealer's establishment. Color catches the eye long before the spoken or written word takes effect.

The show itself was colorful. Movable display devices cleverly driving home a message from the manufacturers vied with stationary apparatus adorned with clusters of multi-colored light bulbs. Then there was the magnificent gray Pierce-Arrow coach belonging to Black & Decker, to be used by the latter company in connection with mechanical clinics to be held in various parts of the country. This coach has incorporated in it all the comforts of home in addition to carrying at the rear a complete line of Black & Decker products. A 110-volt Kohler light plant furnishes current for the tool equipment and thus it becomes quite an easy matter to demonstrate anywhere these tools under actual working conditions.

So far as the accessories and equipment are concerned there were no frills, but naturally some makers took advantage of their opportunities to bring to the show novelties to attract attention. The Victor Mfg. & Gasket Co., Chicago, brought to the show an immense gasket, a faithful reproduction of the cylinder head gasket used on the Studebaker Special Six. This gasket measuring some 7 or 8 ft. in length was hand made and of excellent workmanship. Then, there was The Piston Ring Co., Muskegon, Mich., with an immense piston ring 6 ft. in diameter. This, it is stated, is the largest ring ever made. Suspended from it was a tiny ring 1 in. in diameter, used for air compressor work.

#### *Canned Goods in Evidence*

As in former shows of this kind the makers of canned goods were on the job with a display of products known wherever motor vehicles are operated and maintained. There is not always something attractive about a tin can filled with a liquid or a box of powder and consequently such booths often are passed by because "there's nothing new."

And yet, you will find among many of these canned goods items that have been on the market many years longer than some makes of motor cars or mechanical devices.

There was Van Cleef Bros. of Chicago, for instance, with the well-known line of tire cut fillers and gasket shellac; the Simoniz Co., Chicago, with its preparation for shining up and maintaining car lustre, Brake Juice, a tar remover and Corol, a rust preventive; Warner-Patterson with its liquid solder; Nu-Back Mfg. Co., St. Louis, radiator liquid and repair enamel; Kant Rust Products Corp., Rahway, N. J., with its rust preventive and the Buckeye Cleanser, a soap made by Davies-Young Soap Co., Dayton, Ohio.

Those who looked over the show carefully saw a little of the romance of automobile racing. What? Racing stuff at a show for dealers and jobbers? Yes. Just this.

Several makers of products used in passenger vehicles took the opportunity to tell the world about their achievements on the race track. Everybody loves a winner and the winners were shown.

Take spark plugs. They have an immense task to perform in a racing engine turning over better than 5000

r.p.m. And so at the show we saw the Champion Spark Plug Co., Toledo, Ohio., playing up its achievement in racing and at the same time expounding the use of sillimanite for a plug insulator in its every day type of plug for the motorists. The booth of the Indianapolis Tool & Mfg. Co., Indianapolis, smacked of racing with its "The Winning Gears" sign and illustration of drivers who used these ring gears and pinions in their mounts. And we saw The Indiana Piston Ring Co., Hagerstown, Ind., showing how its rings performed in the 122 cu. in. Duesenberg racing engines this year. Nor must we forget the oil companies. There was White & Bagley Co., Worcester, Mass., with Oilzum a trade name of long standing years before the supercharger gave the added kick to racing engines.

#### *Stronger and Lighter Materials*

Metallurgy has done the same thing in the accessory field as it has for the motor vehicle industry. It has given us stronger and lighter materials. Tools, while not differing in fundamental design, have been made more useful and dependable by better materials. Example: J. H. Williams & Co., Buffalo, N. Y., now has a line of wrenches made from chrome-molybdenum steel, by far stronger and lighter than carbon steel. Result: Mechanics have better tools. A case of refinement again.

Better materials are used in the fitments for motor cars and in the case of shop equipment we find not only better materials and better finished apparatus, but equipment in which the human element has been largely eliminated and the chance for error made very remote.

Some of the excellent performance these days with motor vehicle clutches is due in no small part to manufacturers. Much clutch trouble of former days was due to faulty facings of the disks and it probably can be safely said that the present-day success of clutches of the disk disk type is due to ground facings, which do not vary the thickness of a hair in their makeup.

That is why such concerns as Johns-Manville, Inc., New York; Multibestos Company, Walpole, Mass.; The Raybestos Co., Bridgeport, Conn., and others must not be passed up at the shows as having "nothing new."



*North hall of Coliseum*



*South hall of Coliseum*

There was much evidence that manufacturers had in mind the automobile mechanic and service man by making his product more easily identified. Burgess-Norton Mfg. Co., Geneva, Illinois, for example, now furnishes its piston pins with the number etched into the surface showing exactly its diameter and length. This makes it possible to get the standard or oversize pin for a piston as the job may require and there is no danger of the mechanic picking up a wrong size.

Engine parts makers were there in abundance showing such products as timing chains, valves, timing gears, axle shafts, etc. In many of these exhibits the processes involved in the manufacturing of these parts was shown thus adding a little educational touch to the show here and there. Among such concerns was the Thompson Products, Inc., Cleveland, Ohio, makers of valves, bushings and starting cranks; Detroit Steel Products Co., Detroit, springs, and other parts; Timing Gears Corp., Chicago, timing gears; Federal Mogul Corp., Detroit, bronze back bearings, bronze bushings, cored and solid bars, connecting rod bolts, etc.; American Auto Parts Co., Detroit, car springs; Goodrich-Lenhart Mfg. Co., Hamburg, Pa., engine testing valves, wiring assemblies, brake shoes, electric cables, etc., and the N. A. Petry Company, Inc., Philadelphia, Pa., makers of tuning up valves, dash controls, foot pedals, etc.

#### *Gasket Exhibits of Interest*

One cannot help but be impressed with the excellent materials now obtainable to make a tight joint between cylinder head and block, front end gear case cover, oil pan joints, axle housing plates and the 101 other places where it is desired to retain air, water, gas or lubricant. To that end the exhibits of the manufacturers making gaskets and packings were of interest. Many of these companies have consistently put their product into the field for a great many years and notable among these concerns are the Thermoid Rubber Company, Trenton, N. J., Fitzgerald Mfg. Co., Torrington, Conn.; Vellumoid Company, Boston, Mass., McCord Radiator & Mfg. Co., Detroit, Mich., and Victor Mfg. & Gasket Co., Chicago.

Naturally a large per centage of the show is given over to electrical equipment with a variety of designs and purposes. Aside from the concerns already mentioned making electrical equipment, A. C. Spark Plug Company, Flint, Mich., was on hand with its line of well known plugs and A. C. speedometer for Fords, Forrest Electric Co., Newark, N. J., battery chargers, test sets, etc.; Mosler Metal Products Corp., Mt. Vernon, N. Y., spark plugs, timers, intensifiers, etc.; French Battery Co., Madison, Wis., flash lights radio batteries, dry batteries; Edison Lamp Works of General Electric, Harrison, N. J., bulbs; Yale Electric Corp., Brooklyn, N. Y.

The Blackhawk Mfg. Co., Milwaukee, Wis., showed a very complete line of its Speed wrenches, hand tool grinders, water pumps, and similar items and A. Schrader's

Sons, Inc., Brooklyn, N. Y., who have become one of the shining lights of the accessory industry showed their well known tire valve, pressure gages, etc.

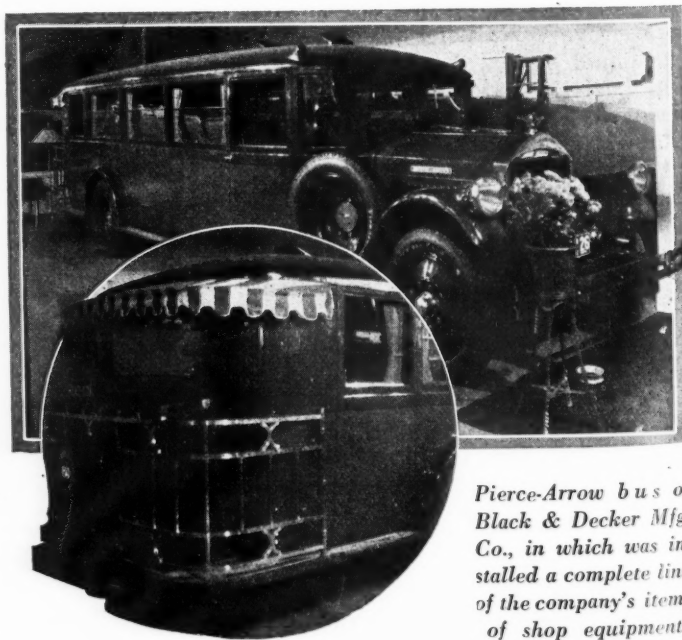
Naturally some of the booths were crowded with a variety of material almost too numerous to mention. Various concerns who have been in business for many years have added items from time to time that have appreciably swelled their list. Some of these makers have equipment not only for the motor car, but for the shop and service station as well. Under such headings we find concerns like Edelmenn & Co., Chicago, Appleton Electric Co., Chicago, Imperial Brass Mfg. Co., Chicago, and others.

We have already stated the trend of the accessory and parts makers to follow the trend of automotive design toward simplifying and beautifying their product. Although the following concerns exhibited nothing radically new, their product showed tendency toward refinement and greater usefulness: Indianapolis Pump & Tube Co., Indianapolis, Indiana, The Auto Compressor Co., Wilmington, Ohio, Lincoln Products Co., Chicago, Thompson Products Company, Cleveland, Ohio, Gemco Mfg. Co., Milwaukee, Wis., Advance Auto Accessories Corp., Chicago, Columbus-McKinnon Chain Co., Columbus, Ohio, Spencer Mfg. Co., Spencer, Ohio, Bell Mfg. Co., Boston, Mass., Gillfillan Brothers, Inc., Los Angeles, Calif., Walker Mfg. Co.,

## NATIONAL SHOWS ISSUE *And Specification Number* of **MOTOR AGE**

Will be published January 7, 1926, and will contain descriptions of brand new 1926 models and about 40 pages of up-to-date specifications of passenger cars, trucks, taxicabs, tractors and motorcycles, and many other special editorial features.

Racine, Wis., American Hammered Piston Ring Co., Baltimore, Md., Lyon Metallic Mfg. Co., Aurora, Ill., Frank Mossberg Co., Attleboro, Mass., Laminated Shim Company, Long Island City, N. Y., and the Cooper Mfg. Co., Marshalltown, Iowa.



*Pierce-Arrow bus of Black & Decker Mfg. Co., in which was installed a complete line of the company's items of shop equipment*

# What the Show Visitors Saw in the Individual Exhibits

**B**UMPERS finished in colors to match the colors of automobile finishes were put on display at the show for the first time by the Central Brass & Fixture Company, of Springfield, O. Bumpers of this character will be included in this company's future catalog offerings. The C. B. and F. Company believes the demand for cars of different hues will create a large demand for bumpers to harmonize.

Among the interesting displays of bumpers was that of the Badger Manufacturing Corporation, of Milwaukee, Wis., which, in addition to specimens of its older products, offered the first showing of its Badger Ultra Guard Round Bumper with steel rear members. This is a massive looking tubular bumper enameled in black with nickle finish. It was designed both for severiceability and attractiveness.

The Reliance Manufacturing Company, of Massillon, Ohio, which occupied booth No. 348, interested many of its visitors with the Reliance Phosphor Bronze Lockwashers, which is a new product with this organization. This is a non-corrosive washer for use in radios and automotive devices where it is desired for contact with electric current.

## Shopsutes for Mechanics

Something that should appeal to the mechanic in the automotive shop was found in the Shopsutes which have been added to the line of the Crawford Manufacturing Company, Inc., of Richmond, Va. The Crawford Company was located in booth 342. The Crawford Shopsute is a big, roomy one-piece khaki overall. Sizes 36 to 44, inclusive sell for \$4.50 and size 46 sells for \$4.75.

Attendants at the booth of the Sterling Manufacturing Company, Cleveland, Ohio, caught considerable interest on the part of callers with a designer's model of a Radiola Battery Tester. The tester is simple in design and operation and will be ready for the Christmas trade where it is believed it should have a good appeal.

The Hall-Thompson Company, Hartford, Conn., was on hand with an artistic display of its Wonder Worker products, the red togged and be-goggled Wonder Worker mascot being much in evidence. Wonder Worker products include such items as Wonder Worker Brilliant Lustre, tire veneer, auto soap, tar and road oil remover, compression grease, cup grease, tire cement, etc.

Keystone Reamer & Tool Company, Millersburg, Pa., at booth 168 was showing its new Keystone Standardized Piston Pin Reamer of helical flute design. This reamer is standardized the same as the company's 1106 reamer. The new device offers a reamer with an extreme spiral. In the foreground of the booth was a large display of taps, dies, screw

plates, etc., while the show marked the first appearance of the company's catalog "Tools That Do the Job Right."

Considerable attention was attracted by the constant flow of a gas flame through a design of tubing at the booth of the Manhattan Electric Supply Company, Inc., of New York. Investigation revealed that the stunt was a demonstration of the Neon Gas Tube used in the

On this and the following pages MOTOR AGE presents descriptions of products exhibited at the A. E. A. Show which were not announced until the opening day of the show and therefore constitute items entirely new to the trade. There also are mentioned things which concerns of long standing recently have added to their line, but which have not previously been described in MOTOR AGE. Quite naturally some of the exhibitors had no brand new items, but displayed their wares substantially the same as in the past. In view of the fact that most of these concerns have been in the field with excellent products for many years, we mention here also the exhibits of such concerns.

Manhattan's B eliminator. The company was showing its new "Manhattan B Power," a B eliminator which gives a voltage up to 135. It was also showing its regular line of Red Seal electrical and radio products.

At booth 175 the Continental Rubber Works, Erie, Pa., displayed samples of its wide range of products including such items as rubber mallets, blowout patches, dust caps, fan belts, automatic windshield cleaner tubing, etc. Explaining the presence of a reel carrying 500 feet of Vitalic Air Hose those in charge of the display announced that the company is prepared to sell this hose in such lengths hereafter. Heretofore the hose has been offered in lengths of 25 and 50 feet.

That such products as valves can be worked into an inviting display setting was demonstrated at the booth of the Toledo Steel Products Company, Toledo, Ohio. Conspicuous boards in the front of the booth presented valves for specific makes of automobiles while a large board in the rear and tables held other Toledo Steel units.

The Elite Manufacturing Company, Ashland, Ohio, had two new products to show the trade, one being its Reliable No. 50 Hydraulic Jack and the other its Reliable Jump Jack. The former is designed for protection against leakage and it is for general garage purposes. It lists at \$50. The Jump Jack is a jack for quick changing curve. The company had an electrically actuated display demonstrating its Reliable No. 7 Balloon Tire Jack while it displayed others of its products.

Moto-Meter Company, Inc., Long Island City, N. Y., provided one of the show's conspicuous landmarks in its huge exhibition Moto-Meter design. This is one Moto-Meter that will fit no current automobile. It measures something more than two feet across the face of the dial and around three feet from the base of the cap to the top. Samples of the revamped De Luxe Moto-Meter and Standard Moto-Meter were shown at the booth. Each model now has a gold dial instead of the black dial as formerly while the retaining rings are embossed instead of plain. It makes them more attractive. Prices will remain unchanged and the revamped models will be in production Jan. 1. Jobbers can turn in old models on new ones by prepaying shipping charges.

The Continental Piston Ring Company, of Memphis, Tenn., which claims the distinction of being the only piston ring manufacturing concern in the south had its usually inviting display, this time in booth 189. Both the Elastic Oil Ring and the Elastic Piston Ring, well known to the trade, were presented on a board in the back ground.

Bumpers seemed to get a big share of the departures at the A. E. A. show this year and evidence to this effect was found again at the booth of the Harvey Spring & Forging Company, Racine, Wis. "Harvey's New Bumpers and Fender Guards" drew much attention. The bumpers and guards are made of three bars of  $\frac{5}{8}$  in. spring steel, the steel structure and design giving the units unusual resiliency and shock-withstanding qualities. An unusually wide bumping surface is also afforded.

## Dolls Tell Story

Harvey's new bumpers are in black enamel and nickle trimmed. The company also showed springs and spring oilers.

The Protexall Company, Abingdon, Ill., holding forth at booth 195 did not keep the spectator guessing long as to what it had for the market. A long line of large dolls told the story. Each was dressed in a Protexall one-piece garment.

Sparks-Withington Company Jackson, Mich., signalled its invasion of the radio field with a showing for the first time of Spartan Radio Sets. They are of

the five tube tuned radio frequency variety. One of the models lists at \$75 and the other at \$58. Hand tinted views of the Sparks-Withington plant at Jackson were displayed to commemorate this company's silver anniversary. Of course Sparton horns were conspicuous in the exhibit.

Clifton Manufacturing Company, Waco, Texas, quartered for the show at booth 203 employed an impressive method of showing some of its auto fabric equipment. In the booth was a miniature automobile dolled up with a hood and radiator cover, top cover, and a seat cover and canopied by an automobile tourist's tent—all belonging to the company's line.

Troubles that befall the American automobile tourist were aptly illustrated on a novel map that formed part of the display of the Frank Rose Mfg. Co. of Hastings, Neb. On different sections of the map the tourist was found in some new grief. A good hand tire pump would have helped the tourist out of the difficulty on many occasions—and that is one thing the Frank Rose company sells. Another thing is a line of grease guns.

Temco Electric Motor Company, Leipsic, Ohio, received many visitors who were interested in this organization's electric drills, grinders and other shop equipments. A display rack for jobbers' show rooms was exhibited which carries six drills and grinders.

Bushings reigned supreme at booth 106 which was occupied by the Johnson Bronze Company of New Castle, Pa. This was a bright looking display and well arranged. Dealers' stock assortments of bushings were displayed, one of piston pin bushings, one of steering knuckle and tie rod bushings and one of spring bolt and general purpose bushings.

King Radio Receivers commanded the central position at the booth of King Quality Products, Inc., Buffalo N. Y., while displays presented the company's lines of such products as piston pins, piston pin screw sets, steering knuckles, shackle bolts, etc. New Shackle bolts were also shown.

### New Ford Radiator Shell

McCord Radiator & Mfg. Co., Detroit, announced and displayed a new Ford nickel-plated radiator shell. This radiator shell is for Ford models from 1917 to the current 1926 designs. The booth exhibited also two gasket display boards for jobbers or service stations or other large gasket handlers. One board holds a complete assortment of ring gaskets and exhaust type gaskets, over 2000, while the other board shows exhaust or manifold type gaskets to fit all popular cars, there being about 400 gaskets in this assortment. The booth also displayed a cabinet for showing cylinder head gaskets in the dealer's place of business. The cabinet has roller bear-

ing drawers with a locking device to prevent the drawers from coming entirely out and has several other convenient features.

The Curtis Style Y Direct Pumping Air Compressor for private garages and small public garages was one of the interesting things at the booth of the Curtis Pneumatic Machinery Co., St. Louis, Mo. This is a new product. It sells for \$90 and can be used anywhere where an electric light socket is available for attachment. The outfit is on casters which can be removed along with a pushbar handle if it is desired to use the compressor as a stationary facility. There is a compression gage and the company recommends the device especially for balloon tires.

Russell Manufacturing Company of Middletown, Conn., had its latest contribution to the shop on the floor of the show. This is the Rusco Brake Lining, Drilling and Counter Sinking Machine which has been out only a few weeks. The machine is said to be particularly adapted for brake service stations and it will handle any size of brake band.

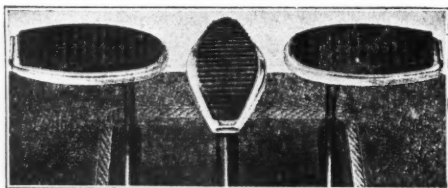
Apco Manufacturing Co., Providence, R. I., in booth 216 introduced its Anti-Shimmy, which is a spring designed to take the wobble out of Ford wheels. It snaps onto the steering rod. The company also displayed its Anti-Rattlers, Auto Radiator Heaters and a new type of outside oiling system, all for Fords.

(Continued on next page)

## Some New Products at Automotive Equipment Show

### FULTON PEDAL PADS

RUBBER pedal pads for the 1926 Fords are made by the Fulton Company of Milwaukee, Wis. These come in sets of three and sell at a list price of \$1 for the set. A new model accelerator for all Fords including 1926, is also being produced, this selling for \$1.50 and being so designed that it can be located  $4\frac{1}{2}$  in. from the brake pedal to obviate the danger of stepping on the accelerator when attempting to apply the brakes.



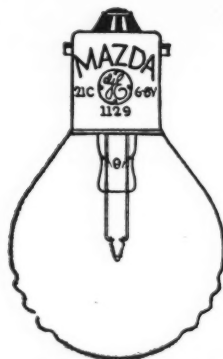
Fulton pedal pads for 1926 Ford

The Fulton Company also have a new truck mirror with 20 in. arm, plate glass being used in the mirror portion of the device. This sells for \$1.25.

### NATIONAL LAMP BULB

A NEW type bulb with a wrinkled surface is being made by the National Lamp Works of General Electric Company, the purpose of this being to reduce the glare when double filament bulbs

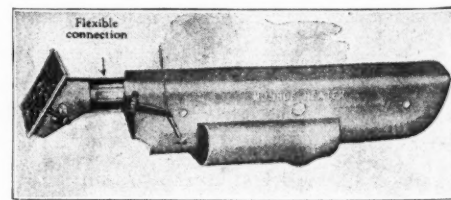
are used. This change in the spherical surface is required when one bright filament is above the other for use in getting a depressed beam for passing an approaching car. For the sake of uniformity it is also being used with a single filament bulb, although its effect is inappreciable with this type and the plain glass bulb is just as satisfactory as the wrinkled type when a single filament only is employed. At the exhibit of the National Lamp Works the effect of improperly placed filaments and other details of lenses and reflectors which affect adequate and inadequate lighting was shown by means of screen on which the light from the various lamps was thrown.



Wrinkled bulb used with double filament lamp

### MONROE HEATERS

A LINE of heaters for Chevrolet, Dodge Brothers, Chrysler, Overland, Maxwell and Ford is made by the Monroe Auto Equipment Mfg. Co., of Monroe, Mich. These heaters are of manifold type and carry warm air to the car by means of register in the toe board. A conveniently operated handle on the dash controls the valve and either gives more or less hot air. Heaters are aluminum



Typical manifold heater made by Monroe

with the exception of Chevrolet which is cast iron. Prices range from \$1 to \$7.50, the heater at \$1 being a sheet iron model used on Ford cars.

### NEW LAMP

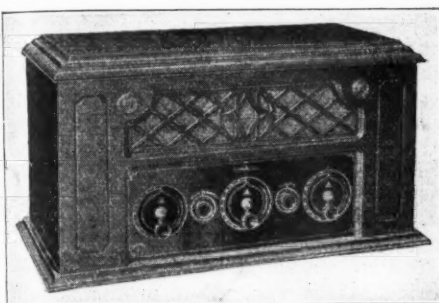
A NEW lamp for the 1926 Ford car was shown by the Cincinnati-Victor Company of Cincinnati, Ohio, this lamp being equipped with a Brown reflector. The lamp attaches to the fender in the manner used in 1926 Fords.

# Some New Products at A. E. A. Show

(Continued)

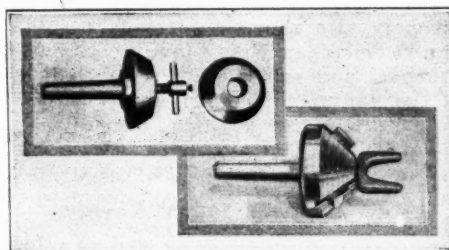
## NEW APEX RADIO SET

**A**PEX De Luxe Receiver. Apex Electric Mfg. Co., Chicago, Ill. This Apex radio product combines the company's Super Five Receiver with the Apex Entertainer (loud speaker) house in a complete unit. The receiver is so



Apex receiving set

constructed that it permits installation of certain standard types of battery eliminator equipment. With such installation it can be operated from the electric light socket, thus doing away with the everyday type of A and B batteries and chargers. Solid walnut cabinet. Size 29½ by 15½ by 18 in. high. Price \$135, including Apex Built-in Entertainer, but without accessories. Slightly higher west of Rockies and Canadian prices 40 per cent higher.



## ADAPTERS FOR HOLDING PISTONS

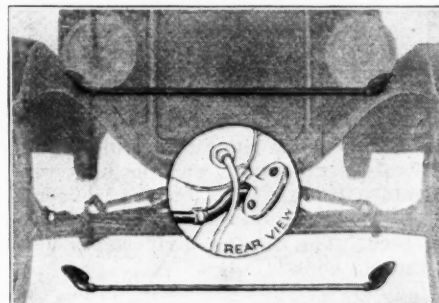
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**A**DAPTERS for holding pistons in a lathe, South Bend Lathe Works, South Bend, Indiana, are made in two styles, A and D. The former is a cone adapter to be used for turning pistons although it is especially designed for grinding work. The three adjustable jaws which slide in dove tails milled in the cone have special screws for locking them securely in position. The taper shank is ground to fit the spindle of the lathe and the cone is highly polished and graduated in quarter inches to take pistons from 23/8 to 5 in. Price of style A is \$15. In the style D two rings, a large and small size are furnished and additional rings for larger or smaller pistons can be purchased. The two rings being turned to a 60 deg. taper, the same as a lathe center, fit into the skirt of the piston very accurately. The piston is

turned by means of a driving dog. Price \$9.50.

## MARQUETTE LAMP AND FENDER SUPPORT

**M**ARQUETTE Lamp and Fender Support for New Ford. Marquette Manufacturing Company, St. Paul, Minn. Recommended by the makers because of its neatness, simplicity and strength in



Marquette lamp and fender support

service. It is said to prevent vibration which soon results in loosening and fender rattle. Attached beneath the Ford lamp brackets with same bolts. No holes to drill in installation and can be put on in few minutes. The support is made in two styles, nickle and black enamel. List price, black enamel \$1.40; nickle, \$1.80.

(Continued on next page)

# What Show Visitors Saw in the Individual Exhibits

(Continued from page 14)

That the Apco Timer for Fords is as "steady as a clock" was demonstrated with a display in which a clock face featured.

The Price-Hollister Company, Rockford, Ill., made use of cut away samples and display charts to present the merchandising virtues of its Jumbo Giant Transmission for Fords.

Very attractive Christmas packages for Williams Accelerators were on display at the booth of Williams Brothers Aircraft Corp., of San Francisco, Cal. The Christmas boxings are for both the Senior and Junior models. Another thing seen at this booth was a showing of Safe-Tie Nuts for Ford transmission bands. Then there was an accelerator merchandiser in the shape of an easel display board for the dealer.

A new jobbers' display board of welding, cutting, carbon burning and lead burning equipment was a feature at the booth of the Imperial Brass Mfg. Co., Chicago, Ill. There also was a new jobbers assortment case for compression coupling fittings in addition to a showing of other products.

One of the show's highly interesting display boards was in the booth occupied by the Modine Mfg. Co., of Racine, Wis. This company is the maker of the Mo-

dine Super Spirex Ford Replacement Radiator. The display board explained the construction of the radiator.

A new one sprung at the show by the Gladiator Mfg. Company, Auburn, Ind., was the Gladiator Air-Vac Automobile Vacuum Upholstery Cleaner. This is a small vacuum cleaner for the automobile seats, etc. The suction is created by the automobile engine, a connection being made to the intake manifold. Control is by a control cock at the dash. List \$5.

Another new Gladiator product was the "Air Flex" Air Cleaner, a cleaner which it is said cannot be injured by backfire and which will not interfere with the carburetor adjustment or increase gasoline consumption. Price for Ford or Chevrolet cleaners \$5. Company will furnish other prices.

## New Air and Water Station

The Romort Mfg. Co as a new offering showed the Romort Air & Water Station using a Safety Tire Inflator which registers before inflation the amount of air desired in the tire. The station is built for an illuminated top without glass to break. It has a special radiator filler and a new air valve which enables the operator to reach difficult places. The company also showed a working model

of its Advertising Air Station, which provides places on its sides for advertisements.

Klaxon Company, Anderson, Ind., took occasion at the show to introduce Klaxon No. 18 high frequency horn to list at \$12.50, deliveries Jan. 1. The company also announced two new horn models on the motor-driven line, the 8C and the 12C, listing at \$3.50 and \$5 respectively. The price of the hand signal has been reduced from \$5 to \$4.

Bushings and bearings had another big inning at the booth of the Buckeye Brass & Mfg. Co., of Cleveland O., while Splittorf Electric Co., Newark, N. J., presented its new socket wrench assortment in addition to such products as Bethlehem caps, spark plugs, radio and radio parts and other electric and radio products.

A new item of shop equipment was shown at the booth of the Canedy-Otto Company, Chicago Heights, Ill. This was the Canedy-Otto Motor Drive Sensitive Drill, which has been designed for any sensitive high-speed work up to ¾ inch. The drill comes complete with motor, belt, switch, and necessary lamp cord at \$44 to the dealer.

Chas. O. Tingley & Co., Rahway, N. J., showed a new clincher flap and a count-

er display box for each of its products. The company has been well known as a handler of blowout patches, plaster patches and flaps.

A photograph of a carload shipment of Pedrick Heat-Shaped Piston Rings was passed around to callers at the booth of the Wilkening Mfg. Co., Philadelphia. The picture had just been taken and the big consignment was going to Cummings & Emerson, A. E. A. jobbers at Peoria, Ill.

The Dearborn Equipment Co., Kalamazoo, Mich., exhibited display boards of its line of shop tools for Ford, Fordson and Chevrolet. It also had a good display of burnishing machines, motor stands, axle stands, etc.

It was not difficult to identify the headquarters of "Dutch Brand" goods, handled by Van Cleef Brothers of Chicago. Aside from the women running the hat checking place the "Dutch Girl" at Van Cleef's booths was the only representative of that sex on the Coliseum floor. The occasional feminine visitor is excepted. The "Dutch Girl" was a part of the big show.

Phinney-Walker Company, Inc., of New York occupied a booth with its display of clocks and watches for the automotive trade and there was plenty in gaskets at the booth occupied by the Victor Mfg. & Gasket Co., of Chicago.

Stone Mfg. Co., of Chicago, handling rims, rim parts and tire carriers had a new counter display for tire carriers

and a new counter cabinet for rim parts.

Protection to the car and its human freight seems to be the goal of the American Chain Co., of Bridgeport, Conn., long known as the makers of Weed chains, while a complete line of bumpers also shows the trend of automotive merchandising, toward a more practical and safe vehicle. The exhibit of the Wolverine Bumper and Specialty Co. of Grand Rapids, Mich., also showed a variety of bumpers, both of the flat bar and round type.

### Protection and Safety Keynote

Protection to property as well as safety for the car and its occupants is exemplified by exhibits at the show, the former feature being well brought out at the display of the Frain-Slaymaker Hardware Co. of Lancaster, Pa., this display including padlocks of all sorts and sizes as well as chains with locks for use in protecting the spare tire from theft.

But protection is not necessarily confined to those things which appear to the casual observer. Under the fine exterior of the modern car is a net work of nerves, the wires that carry the electrical current to operate the horn and lights. Light circuits go here and there, under the body, across sheet metal edges and frame corners, where in spite of the most careful installation trouble is likely to occur at some time. Here the fuse, used on many cars is provided to

take care of the emergency and prevent loss of battery current and possible fire hazard. Complete lines of fuses were shown by the Chicago Fuse Manufacturing Co. of Chicago and the Bussman Manufacturing Co. of St. Louis, Mo., the former company also displaying a radio fuse designed to protect the filaments from possible overload from a stray connection with the "B" battery circuit.

Time was when lights were needed to light up the road, then to light the road with minimum interference with the vision of the fellow driving in the other direction, but now lights are made for many purposes, to park with, to signal with, to read by in enclosed cars and for purposes of decoration. These various types of lamps and possibly some others not mentioned, were shown by the K-D Lamp Co. of Cincinnati, Ohio, and the Culver Stearns Mfg. Co. of Worcester, Mass., the latter also having a radio set on display.

The realization is becoming more general that the receipt of profits should start rather than end with the completion of the sale of the new car, for from the time it enters the owner's hands, there is a continual opportunity for additional business and profits. Jacks, luggage carriers and tire pumps, such as are handled by the Wm. E. Pratt Mfg. Co. of Chicago, find ready sale. Other items displayed which come in this same classification are the visors, made by the

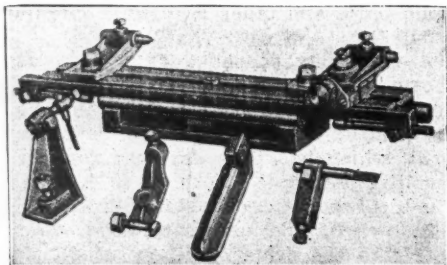
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## Some New Products at Automotive Equipment Show

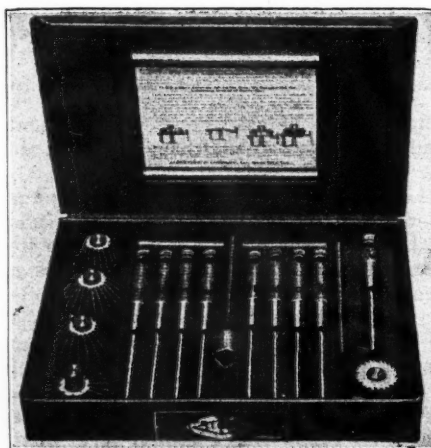
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### REAMER GRINDING ATTACHMENT

THE Sioux expansion reamer grinding attachment, Albertson & Company, Inc., Sioux City, Iowa, is especially designed for grinding both straight and spiral expansion reamers. The reamers are held between centers which are hardened and ground. A micrometer adjustment assures alignment of the reamer so as to insure grinding the reamer straightly and accurately. A gage for adjusting the tooth rest assures proper clearance on the reamers. There is an adjustable stop which insures perfect grinding of the cutting surfaces of the reamer without injury to other parts of the latter such as pilots or guides. A double screw adjustment adjusts the ways to running clearance. The capacity is up to 2½ in. diameter and 15 in. in length. The attachment complete with holder for a diamond dresser is priced at \$65.



Reamer grinding attachment



### SIoux VALVE SEAT REAMER SET

Cut shown above

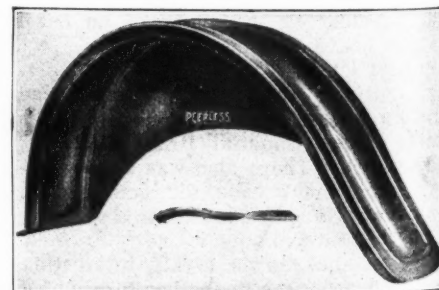
THE No. 38 Sioux standard valve seat reamer set, Albertson & Company, Inc., Sioux City, Iowa, will handle approximately 90 per cent of all engines. It comes complete in a neat metal case and contains the following equipment:

- 1—No. 192 Roughing reamer—45 deg., will handle valve seats from 1¾ to 2¼ in. diameter.
- 1—No. 193 Valve seat reamer—45 deg. will handle valve seats from 1¾ to 2¼ in. diameter.
- 1—No. 194 Nickel tooth reamer—15 deg. will handle valve seats from 1¾ to 2¼ in. diameter.

- 1—No. 195 Nickel tooth reamer—75 deg. will handle valve seats from 1¾ to 1⅞ in. diameter.
  - 1—No. 196 Nickel tooth reamer—75 deg. will handle valve seats from 1½ to 2⅞ in. diameter.
  - 8—Sioux pilot stems ranging from ⅝ to ¾ in. in standard and oversize.
- The set complete in a metal case lists at \$38.00.

### FENDER FOR FORD TRUCK

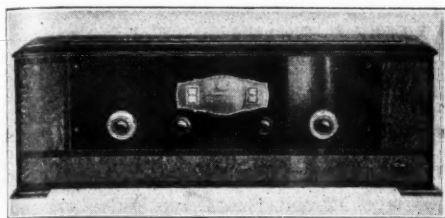
PEERLESS Commercial Fender No. 7. The Corcoran Mfg. Co., Cincinnati, Ohio. A general purpose rear fender for Ford truck. It will fit any 1926 Ford truck chassis and match up with the standard front fender.



Peerless rear fender for Ford trucks

## Some New Products at A. E. A. Show

### (Continued)



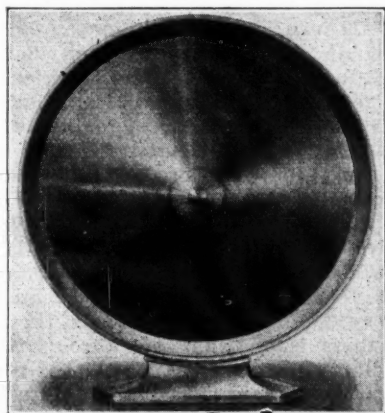
"Amberola," the new American Bosch radio set

#### NEW BOSCH SPARK PLUG

IN the American Bosch exhibit is a new spark plug shown for the first time at any equipment show. This is type P-115, a two piece heavy duty Ford plug designed for the truck, and of course being usable on car models as well. It can be taken apart and cleaned if necessary. The line of Bosch radio equipment makes its first Jobbers' Show appearance. On display is the Bosch radio receiver known as the Amberola, also the Ambotone, the Bosch Wood-cone reproducer, also the Junior Ambotone, a smaller reproducer, and the Nobattery, the Bosch "B" battery eliminator.

The Amberola is a 6-tube radio receiver, the exterior design of which is very pleasing. The Ambotone reproducer

has the exclusive Bosch feature of a wood reproducing cone. This cone is 18 in. wide and gives accurate reproduction of sound. The Junior Ambotone is a smaller reproducer with the cone directly mounted to wood. It follows the same principles used in constructing the Ambotone as far as the actuating mechanism is concerned, and derives its mellow tone from the use of wood.



"Ambotone," the American Bosch wood cone reproducer



#### APEX RADIO CONSOLE

*Cut shown above*

APEX Baby Grand Console. Apex Electric Mfg. Co., Chicago, Ill. An artistic radio cabinet. Will accommodate any type of A and B batteries and necessary chargers or eliminators. The console is equipped with the Apex Entertainer (loud speaker) and measures 48 by 18 by 36½ in. high. Price \$225, including Apex Super Five Receiver and Apex Built-in Entertainer, but without accessories. Prices west of Rockies slightly higher; Canadian, 40 per cent higher.

(Continued on next page)

## What Show Visitors Saw in the Individual Exhibits

### (Continued from page 16)

Pennsylvania Piston Ring Co. of Cleveland, Ohio, decorative radiator caps as made by the J. C. McAdams Co. of Long Island City, N. Y., cutouts made by the Cooper Mfg. Co. of Marshalltown, Iowa, accelerators made by the W. H. Thomas Mfg. Co. of Spencer, Iowa, and curtain lights and fittings made by the Hastings Mfg. Co. of Hastings, Mich., the latter concern and the Pennsylvania Piston Ring Co. also making piston rings.

After the car has run a few thousand miles it needs inspection and lubrication and after it runs ten thousand miles it needs piston rings, and possibly other items. From that point on the market for shop business broadens and the parts maker finds an opportunity to serve and profit by serving. The item of axle shafts alone has been the main stay of W. D. Foreman of Chicago, a line of piston pins also being produced. Piston, pins and piston pin locking screws are the product of the Spencer Smith Machine Co. of Howell, Mich.; valves are made by the Jones Motor Valve Co. of Detroit, Mich., while leather items such as belts, clutch facings and discs for fabric type universals are produced by the Hide Leather and Belting Co. of Indianapolis, Ind.

Time was when the so called mechanic went under the car with his trusty pliers and monkey wrench and parked there for a week or more, but "them days are

gone forever." Today its the well equipped shop that gets the business.

Even the crawl-under part of the job has to a great extent been rendered an obsolete procedure, rendered so by chain hoists, such as are made by the Wright Mfg. Co. of Lisbon, Ohio, while the attachment of new equipment requiring the drilling of holes through tough steel is made easy through use of the products of such concerns as the United States Electric Tool Co. of Cincinnati, Ohio, and Fleming Machine Co. of Worcester, Mass., these concerns also make other items of electrical shop equipment such as bench and portable grinders.

#### Vise an Essential Item

Sometimes we are inclined to pay a lot of attention to the complicated machinery, that which involves the use of electricity or specially constructed mechanism and forget the common items that we use all the time. Just try to do a job of any kind on the running board of a car and see what is most needed. It is the sturdy vise, which is practically an integral part of any bench, the lack of which adds great difficulty to the simplest job. A well rounded line of these essential items was shown by the Chas. Parker Co. of Meriden, Conn.

In overhauling the car it is often found necessary to replace some of the elec-

trical units in order to get the best possible operation of the engine. Here we find use for such items as timers, made by the Milwaukee Motor Products, Inc., of Milwaukee, Wis., the ignition coils made by the Jefferson Electric Co. of Chicago and battery terminals and tools as made by the Ohio Parts Co. of Cincinnati, Ohio.

Small tools, which like the vise are often overlooked are made by the Crescent Tool Co. of Jamestown, N. Y., specialists in the production of adjustable wrenches and pliers, also by North Bros. Mfg. Co., well known for their Yankee line of screw drivers, breast drills and radio tools.

Like the vise and screw driver, sometimes forgotten because accepted as a matter of course is another item, without which the car could not run; the lowly wheel, sturdy as the hickory from which it is made, and the product of the Bimel Spoke and Wheel Co. of Portland, Ind.

#### PACKARD CABLE ASSORTMENT

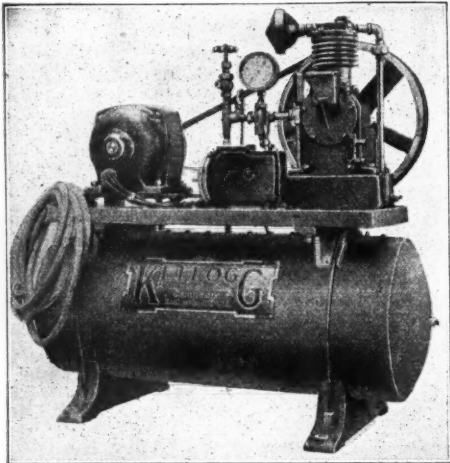
In the November 12 issue of Motor AGE, page 23, there appeared a description of The "Merchandiser," a display board containing Packard Automotive Cables, but the name of the manufacturer was omitted. These items are the products of The Packard Electric Co., Warren, Ohio.

# Some New Products at A. E. A. Show

(Continued from page 17)

## KELLOGG AIR COMPRESSORS

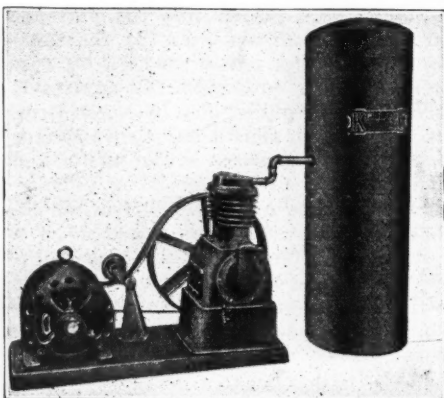
FOUR new air compressors were displayed by the Kellogg Manufacturing Company of Rochester, New York. The Bearcat model, for small service stations comprises a tank and on top of the tank the electric motor and air pump. The compressor will fill a 12 by 36 tank from



Kellogg "Bearcat" compressor for small service stations

110 to 150-lb. pressure in approximately 10 minutes. With 110 volt A. C. motor the price is \$186.50, with direct current the price is \$195 and with 25 cycle, 110 or 220-volt current the price is \$204. In either case the motor is 1/3 h.p.

Another new compressor is known as model E. M. 1222, this being a two stage compressor. This compressor has copper inter-cooler and is provided with ball bearings. A patented constant level lubrication system is used which eliminates oil from the air. An oil gage shows the amount of oil in the reservoir of the



Kellogg model E. M. 132 compressor for paint spraying

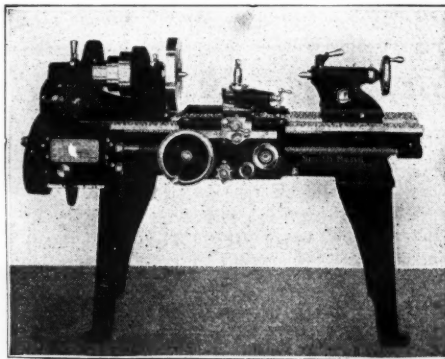
pump. Prices range from \$350 to \$400, depending on type of motor and tank included in the outfit.

Another new compressor is E. M. 132 and 142 to be used for spray painting, sand blasting and operation of pneumatic

tools. It is capable of delivery from 20 to 40 cu. ft. of air per minute at pressures up to 100 lbs. It is made in several sizes with motor ranging from 5-h.p. to 10-h.p. at prices from \$780 to \$995. The outfit is equipped with a vertical tank of 80 gal. capacity. The compressor only without electric motor or tank may be obtained for \$390 for model 132T and at \$410 for model 132TL.

## NEW SOUTH BEND LATHE

AN 11-inch quick change gear lathe, South Bend Lathe Works, South Bend, Indiana. This lathe follows closely the general line of South Bend lathes and is particularly adapted for use with a cylinder re-grinding and re-boring attachment, adapters for holding pistons for grinding and turning and the numerous other fittings handy for the automotive shop. The lathe has an 11 1/4 swing over bed and is made in four sizes taking from 12 to 36 in. between centers. The swing over the carriage is 7 5/8 in. and there is a 7/8 in. hole through the spindle. The quick change gear box provides 48 changes for cutting threads from 2 to 112 per inch including 11 1/2 in.



New South Bend lathe

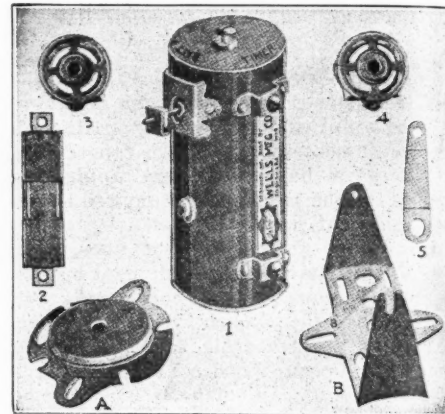
pipe thread. In addition a wide range of automatic feeds, coarse or fine is instantly obtainable. This lathe may be supplied at extra cost with a milling and keyway cutting attachment, taper attachment, hand wheel draw-in chuck, quick acting lever type draw-in chuck, thread indicator, tool post turret, internal or external grinding attachment, etc. It requires 1/2 h.p. to drive it.

## LUPTON STORAGE CABINET

A NEW steel storage tool cabinet for the use of garages and service stations is being put on the market by David Lupton's Sons Company, Detroit. It provides slanting shelves, subdivided to provide suitable places to keep reamers, drills and other special tools. Steel drawers are provided for expensive tools such as micrometers and gages while flat shelves at the bottom with more space take care of larger tools. The price is \$35.

## WELLS FITSALL COIL

WELLS Fitsall coil, Wells Manufacturing Co., Fond du Lac, Wis., designed with two brackets to service all cars. There is no complicated wiring and it can be quickly installed by anyone. Besides the two brackets the coil can be had with a condenser, 6-volt resistance, 12-volt resistance and a ground

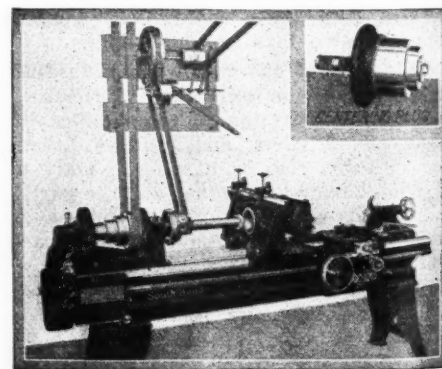


Wells Fitsall coil

strip, all of which are shown in the illustration. Price coil only \$6, condenser \$1, brackets 30 cents, resistance 30 cents and 35 cents, and ground strip 5 cents.

## REGRINDING ATTACHMENT

A PRACTICAL attachment for regrinding engine cylinders on a South Bend lathe, South Bend Lathe Works, South Bend, Indiana. The cylinder block is supported on an adjustable fixture which rests on the cross slide at the top of the angle plate. The centering plug which fits the large hole bored in the angle in the angle plate is used to locate the cylinder concentric to the lathe spindle.



Lathe attachment for regrinding cylinders

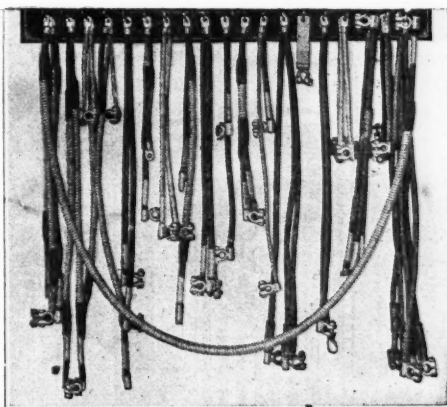
The small pilot ring attached to the end of this plug enters the cylinder hole. After centering the block is clamped to the angle plate. The countershaft drives the ball bearing grinding spindle at 4000 r.p.m. The outfit comes in various sizes to fit lathes 16 to 24 in. and ranges in price from \$300 to \$350.

# Some New Products at A. E. A. Show

(Continued)

## REPLACEMENT BATTERY CABLES

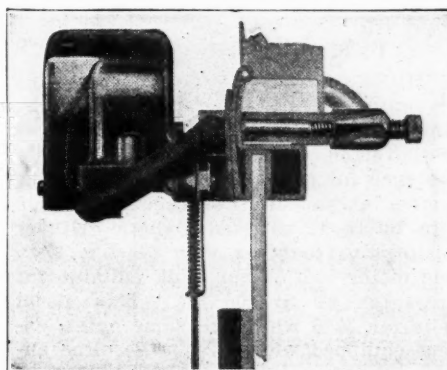
A NEW assortment of replacement battery cables for the most popular cars is being featured by the Whitaker battery Supply Company of Kansas City, Missouri. This assortment includes a display board and contains 56 assorted cables for Chevrolet, Dodge Brothers, Buick, Ford, Studebaker, Overland, Willys-Knight, Maxwell, Star, Hudson, Essex, Oakland and Packard. This is known as No. 2 assortment, the list price being \$67.55. A new cable terminal is also available, this being known as the Fitz-All elbow. It can be used for either positive or negative, right or left. The sleeve portion which fits over the terminal has a double taper meeting in the middle so as to fit either tapered or straight battery posts. It is made of red brass and is lead coated, the list price being 50 cents each.



Whitaker replacement battery cables

## TRICO WINDSHIELD WIPER

A NEW windshield wiper operating on the vacuum principle is being produced by Trico Products Corporation, Buffalo, New York. The mechanism of this windshield wiper is completely enclosed and is mounted together with the wiper on the outside of the windshield. It is secured by a tube through which the air is carried. Shut off is on the inside. The unit is especially designed for Ford closed cars, the list price being \$5. The same company is producing a tandem mirror for use of both driver and passenger, the list price being \$2.50.

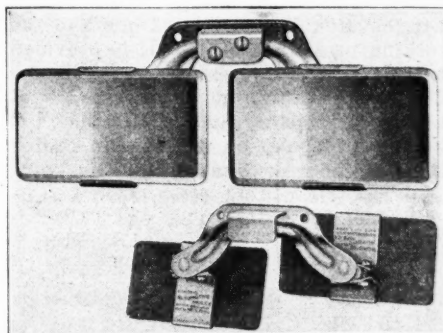


Trico windshield wiper

which the wire runs from the light to the ammeter connection. The price complete with bulb, wire, switch is \$1.

## THOMAS RADIATOR COVER

THOMAS Dash Control Radiator Cover. Thomas Auto Top Company, Muncie, Ind. The cover is controlled much on the order of a window shade, a leader extending from the curtain (under the hood) to the dash where it can be managed by the driver and fastened. The cover is constructed of water-proofed and durable material and is designed for practically all makes of cars. Protects shell as well as sides of radiator thus preventing freezing at bottom.



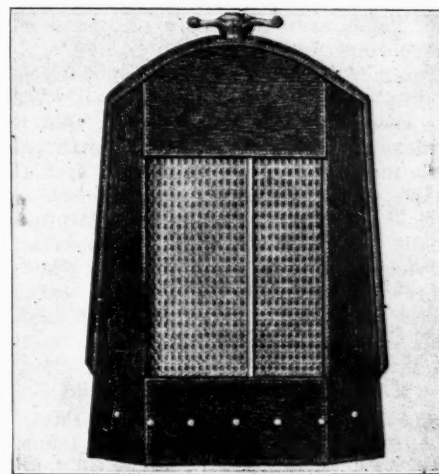
Kokomo dual mirrors

## LE COMPTE PEDAL PADS

PEDAL pads for the 1926 Ford including a rubber corrugated center together with nickel plated brass rim and ears are the product of the LeCompte Mfg. Co., of Newark, N. J. The ears make it a simple matter to attach the pads, these being merely bent under to hold them in place. Another device put out by the same company is an oil tester for Ford cars. It replaces the lower pet cock in the flywheel housing. A wire extension runs from this valve through the running board shield and to check up on the oil it is only necessary to pull on this rod in order to let oil flow from the lower opening. A spring return is provided to close the oil cock after a test has been made. The list price is 75 cents. The same company has a repair type of crankcase arm for use on the Ford engine. A change has been made in this so that it is now provided with eccentric bushings to make it a simple matter to line up the bolts with the hole in the crankcase arm.

## NEW BRAKE LINING

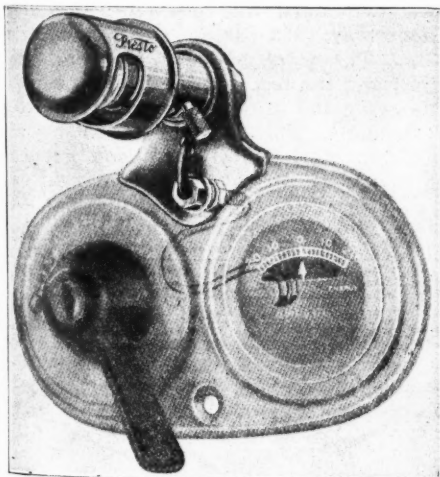
FOR use on heavy duty service the General Asbestos & Rubber Company of Charleston, S. C., are now producing a folded and molded brake lining. This is applicable on taxi brakes, also on trucks and busses. Lining is made of one piece of fabric folded over at both sides so that the edges meet in the middle. It is then molded under high pressure and temperature.



Thomas radiator cover

## KOKOMO DUAL MIRRORS

DUAL MIRRORS are made by the Kokomo Automotive Mfg. Co., Kokomo, Ind. Mirrors of this type provide rear view vision for both occupants of the front seat. The two individual mirrors can be separately adjusted to any position by means of ball and socket construction. The list price is \$2.50 including the two mirrors and the combination bracket.



## PRESTO LAMP FOR 1926 FORDS

Cut shown above

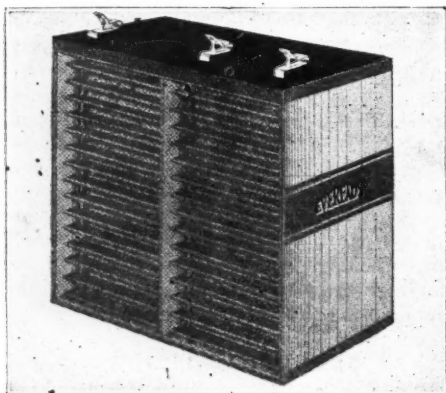
THE Presto panel-lamp for 1926 Ford dash, Metal Specialties Mfg. Co., 338 No. Kedzie Avenue, Chicago, designed to be used in connection with the switch panel on the present model Fords. No drilling is necessary as installation is made by removing the top bolt and replacing it with a hollow bolt through

# Some New Products at A. E. A. Show

(Continued)

## NATIONAL "B" BATTERY

A NOVEL type 45 volt "B" battery is being made by the National Carbon Co., Inc., of New York City. This is known as Layerbilt and by means of cells of rectangular section eliminates a lot of the dead space which is present when cylindrical cells are used. In addition to this feature it has only three soldered connections, due to a special construction. There are no soldered connections between cells, but the nega-



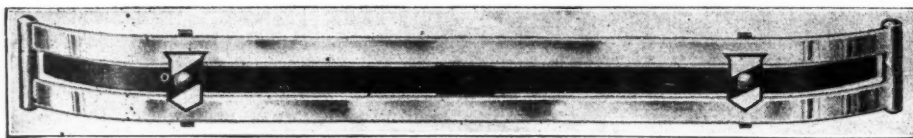
Layerbilt "Eveready" B battery of National Carbon Co.

tive electrode of each cell is turned over and covered with carbon to form the positive electrode of the next cell. In this manner trouble due to internal loose connections is reduced to a minimum. The list price is \$5.50 and the battery is recommended for sets having four tubes or more where the drain on the battery is heavy.

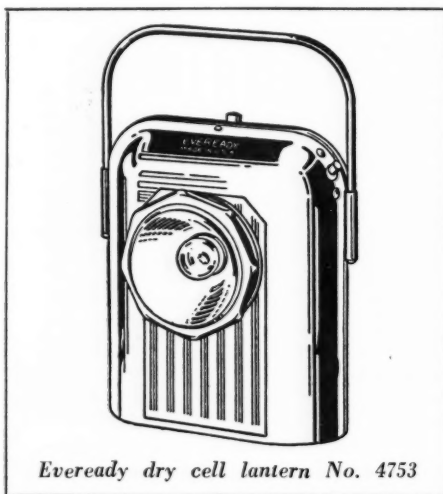
Another item by the same company is a unit cell lantern known as No. 4753 the special feature of this being that it is designed to take standard cylindrical cells instead of requiring cells of special shape. This makes a more commercial article and one that can be used in practically any district where electrical service of any type is available or where there are hardware stores or other stores handling flash light batteries. This lantern lists at \$4.

## MAJESTIC SPRING BUMPERS

MAJESTIC spring bumpers, Metal Stamping Company, Long Island City, New York, made of heavy oil tempered spring steel bars fastened to substantial tubular ends, and reinforced with ornamental clips. It is made to fit all popular makes of cars in widths of 1½ in. for small cars to 2 in. for the larger models. Prices range from \$12 to \$22.



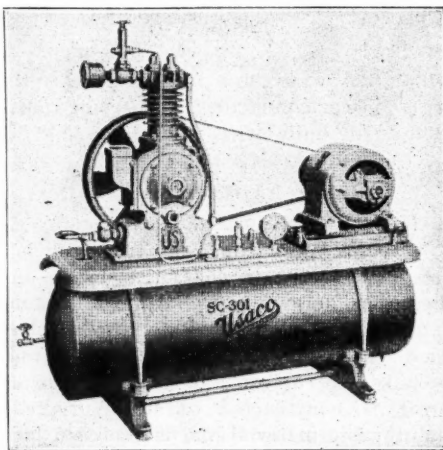
Majestic spring bumper



Eveready dry cell lantern No. 4753

## U. S. AIR COMPRESSORS

THREE new items of compressing equipment are being put out by the United States Air Compressor Company of Cleveland, Ohio. These are especially designed for paint spray equipment. One known as model SC-301 consists of a 3 in. by 3½ in. air cooled single cylinder compressor together with 1½-h.p. electric motor and 30-gal. tank suitable for pressures up to 200 lbs. This model sells for \$256 while the same outfit, except equipped with a 2-h.p. gasoline en-

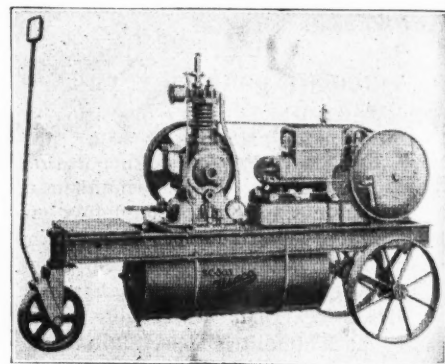


Usaco model S. C. 301 compressor

gine, sells for \$270. A portable outfit known as model SC-303 is similar except that the tank capacity is 22 gal. and the working pressure 150 lbs. It is provided with 2-h.p. gasoline engine and sells for \$304 list. A third model is capable of handling two paint guns at one time. It consists of a 4½ by 3½ in. air cooled single cylinder compressor together with 3-h.p. electric motor; price, \$306.

## NEW PYRENE PRODUCTS

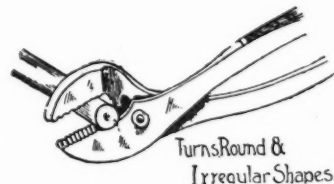
PHOMENE, a foam-type fire extinguisher and Chromine, an anti-freeze solution. Both articles are produced by the Pyrene Manufacturing Company, 560 Belmont avenue, Newark, N. J. Phomene is said to be effective on all classes of fire including such high combustibles as gasoline, oil, grease, etc. It is recommended by the makers as a valuable protection in garages. Three gallon tank furnished complete with one charge and hanging hook. Additional charges promptly supplied on order. Chromine, the anti-freeze solution in liquid form is shipped in 50 gal. drums equipped with spigot. Said to prevent radiator freezing at 15 degrees below zero. One charge in radiator is said to last all winter without evaporation.



A portable model Usaco compressor

## GIANT GRIP PLIERS

A CLEVERLY designed pair of pliers known as Giant Grip No. 444 is a new Red Devil tool made by Smith & Hemenway, 263 Broadway, New York City. The pivot point of the pliers is offset and the teeth of one jaw are set at one angle and in the other jaw at the reverse angle. This gives the tool somewhat the characteristics of a Stillson wrench so that it is possible to take a grip on a round piece of iron or irregular shaped piece and push on one handle of the pliers only. The construction takes care of the grip and makes it unnecessary to clamp tightly on the two handles of the pliers. The design of the jaws is such

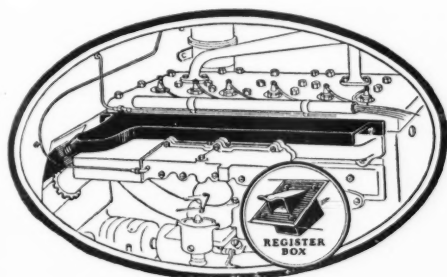


Giant grip pliers

that they are practically parallel or have portions which are practically parallel so that nuts up to ¾ in. in width may be securely and easily held. This is accomplished by means of the shape given to the jaws and by the two pivot points available as in conventional pliers. The tool lists at \$1.

# Some New Products at A. E. A. Show

(Continued)



## RED CAT HEATERS

*Cut shown above*

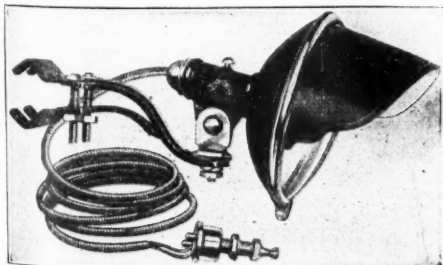
**R**ED CAT heaters made by G. A. Roth Mfg. Company of Hastings, Nebr., are now made for Dodge Brothers, Star, Hudson, and Essex, as well as for Chevrolet and Overland, the first four named being new. The heaters are of the manifold type carrying air to the car body by means of a register box located in the toeboard. The Dodge heater lists at \$9, the Star at \$9.50, the Hudson at \$8 and the Essex at \$9.50.

## PRESTO CIGAR LIGHTER AND LAMP COMBINATION

**T**HE No. 310 Presto Automatic Rewinding ratchet type cigar lighter, dash type, Metal Specialties Mfg. Co., 338 N. Kedzie Avenue, Chicago, is equipped with 12 ft. of cord held in position without any return pull of the lighter because of the patented ratchet feature. It is equipped with a patented safety fuse. The lighting element or tip is encased in hard rubber to protect fingers from heat. Lighting element is large enough to light entire end of any shape cigar or cigarette. Has safety switch button on tip. With 12 ft. of cord and with either 6 or 12 volt tip, price \$5.50.

## DELTA ROADLITE

**D**ELTA roadlite, Delta Electric Company, Marion, Indiana, made with two types of brackets, one called a clamp bracket assembly and the other a pedestal type. They are respectively known as models 50 and 51. The mountings for No. 50 are on the brace rod between headlights, on headlight supports, bumper or bumper brackets or fender braces. No. 51 can be mounted on any fender position, cowl, either running board or on splash pan in front of the radiator. The light itself is brass, nickel trimmed, hand buffed. It has a 4 in. reflector and

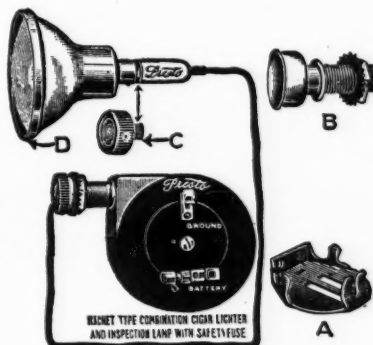


Delta Roadlite

a visor is integral with the lens ring. The visor slides around to any position. A push and pull type switch is furnished for mounting on the dash. The price with either bracket \$4.50.

## BIFLEX FORD BUMPER

**A** NEW bumper for use on Ford cars is announced by the Biflex Corporation of Waukegan, Illinois. This is a parallel bar bumper known as No. 1500 which sells for \$12.50.

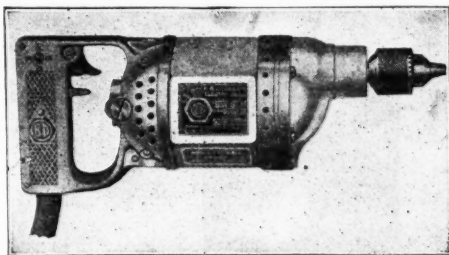


Presto cigar lighter and lamp

## BLACK & DECKER DRILL

*Cut shown below*

**A** NEW heavy duty 1/4-in. drill is being marketed by the Black & Decker Mfg. Co., Towson, Md., the price being \$38. The motor is 1/4 h.p. and is provided with ball bearings. The chuck speed is 3,000 r.p.m. This motor is especially designed for heavy work and makes possible the drilling of more holes per minute than would be possible with a motor of less power. The high power and high speed of this drill make it suitable for driving Fleming valve seating stones. The drill can also be used in connection with battery repairing and tire repairing.



Black & Decker heavy duty drill

## KANT-RUST SPRAY TANK

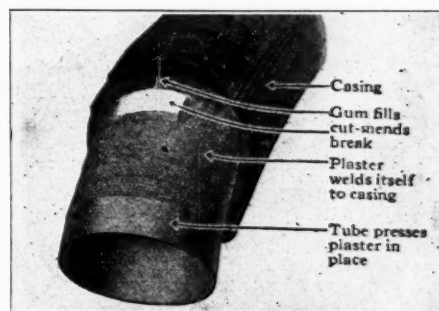
**A**TANK for use in spraying the underneath side of a car and the springs with Kant-Rust is provided by the Kant-Rust Products Corporation, Grand Central Palace, New York, to dealers who wish to use this method of lubricating and protecting cars. The tank is sold for \$45 and a rebate is allowed on every 10 gal. of Kant-Rust in addition to the regular discount. In this manner the initial cost of the tank is gradually rebated to the dealer making the purchase.

## WESTINGHOUSE LAMP BULB

**T**HE new type lamp bulb with the wrinkled surface for use with the two-filament type is also produced by the Westinghouse Lamp Company. At this exhibit a novel device was used for proving that the deflection of the rays of light was complete. A photo-electric cell was employed and the light rays were allowed to operate on this cell. By means of delicate instruments the interruption of the rays of light could be made to operate a buzzer. Walking in front of the light would operate the buzzer or deflecting the rays of light downward would accomplish the same purpose. The arrangement was so made that either the light or the absence of light on the photo-electric cell could be made to operate the buzzer, thus making a very spectacular testing device.

## LAS-STICK CASING PLASTER

**L**AS-STIK Casing Plaster. Las-Stik Patch Mfg. Co., Hamilton, Ohio. Put on the market to meet the need for a cold repair that anyone can apply to a nail hole or blowout without the aid of special tools and heat. It serves as a



Las-Stick casing plaster

self-vulcanizing boot that welds itself to the casing, carrying a filler patch that fills the break. Repair is said to be complete, keeping out water and dirt. Packed 12 to a carton. Standard shipping carton contains six dozen. Dealers' prices range from \$1.80 per dozen to \$5.40 per dozen less 10 per cent discount for orders of six or more dozens.

## BENZER GLASS INSULATORS

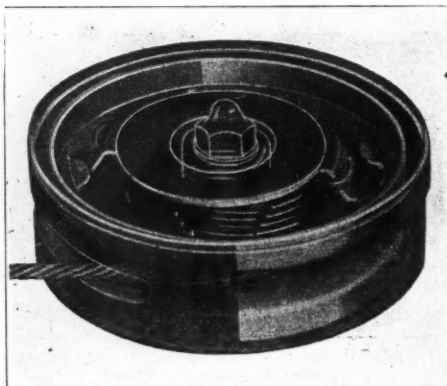
**B**ENZERIZED Glass Insulators. Benzer Corporation, Myrtle and Cooper avenues, Brooklyn, N. Y. This is a radio product. It is said the Benzerized Glass Insulators improve broadcasting reception by delivering a maximum of antenna energy to the receiving set. Naturally they do not absorb water and they do not retain surface moisture. The insulators are made of special heat treated glass which is unaffected by weather extremes. Made in one size, four inches long.

# Some New Products at A. E. A. Show

(Continued)

## BLACKHAWK ACCELERATOR

A MOST novel accelerator was shown at the booth of the Blackhawk Mfg. Co. of Milwaukee, Wis., this having a foot rest at the side which automatically adjusts itself to the position in which the accelerator pedal is being used. With the ordinary type of foot rest, the foot is at a certain angle for 15 miles per hour and at another angle for 30 miles per hour. One position may be comfortable while the other may not be. With this device, the rest moves down as the pedal is depressed, but can not move down by itself. Then when the pedal is released, the rest also comes up to the right position. This makes it possible to hold the foot at any convenient angle and still have the support of the foot rest. The list price is \$3. A number of new wrench assortments were featured at the Blackhawk exhibit, while water pumps for thermo syphon cooled cars were also shown, covering equipment for Chrysler four, Maxwell, Overland and Fordson, the first three being \$8 each and the Fordson being priced at \$15.



## WEED LEVELIZERS

*Cut shown above*

THE newest product of the American Chain Co., Inc., Bridgeport, Conn., makers of the well known Weed chain, is the Weed Levelizer which in addition to proportioning the resistance of a car body's upward speed, counteracts this by providing a cam which reduces the levelizing when the car spring is in the normal position to an amount that does not retard the free action of the spring, but allows it to follow small irregularities of the road. When, however, due to the car hitting a medium or large bump, the levelizer wheel is rotated away from the normal, the full levelizing needed is again put into play. There are no adjustments on the device nor are there any places to oil and it is stated that some cars have gone 50,000 miles without any attention to the levelizers.

## VAN DORN DRILL AND VALVE GRINDER

VAN DORN heavy duty drill valve grinder and 8 in. bench grinder, Van Dorn Electric Tool Company, Cleveland, Ohio. The heavy duty drill has been brought out to meet a demand for operating cylinder hones and operates at comparatively slow speeds. The company also has added an electrically driven valve grinder together with an 8 in. bench grinder.



*Blackhawk Accelerator*

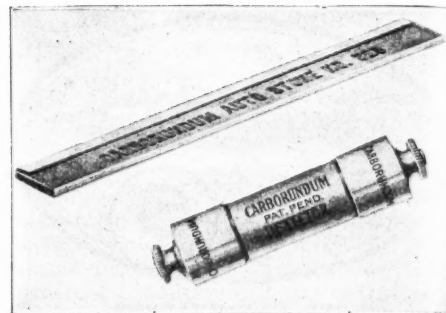
## FLEXO SERVICE CAN

NEW Dover Flexo Service Can. Dover Stamping & Mfg. Co., 385 Putnam avenue, Cambridge, Mass. This is a convenient device in car servicing. It has a flexible pouring tube which stores inside the can when the can is not in use as means of preventing damage while in stock or in shipment. Flexo Service Cans of 5 gallon capacity list at \$5 each and cans of two gallons capacity list at \$3.50 each.



*Flexo service can*

*Additional descriptions of new products will appear in a later issue of Motor Age.*



## CARBORUNDUM AUTO STONE

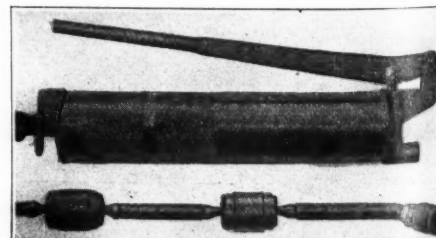
*Cut shown above*

A CARBORUNDUM auto-stone which can be used in place of a fine file is a product of the Carborundum Company, Niagara Falls, New York. In the finishing of interrupter points, for example, when they have become pitted and burnt a stone of this kind can be used in place of the magneto point file. Ignition instruction books often call for honing the points and this auto-stone makes this procedure possible.

Another item is a carborundum detector for use in radio sets which require a crystal detector. Carborundum has the advantage that it is not necessary to hunt for sensitive spots in order to make a detector operate. The carborundum auto-stones sell for 50 cents each and the detector at \$1.50 each list.

## THURO LUBRICATOR

THURO Semi-Automatic Super High Pressure Lubricator and Thuro Flexible All-Steel Universal Ball Jointed Hose. Larkin Automotive Parts Co., Dayton, Ohio. Both the lubricator and ball jointed hose are shown in illustration. The Thuro lubricator is designed for lubricating cars, trucks, etc., especially where the volume of such work to be done is sufficient to require speed and effective operation. It is convenient to fill with oil or grease and feeds automatically, with no screw action. Operation is fast and easy. Two sizes 1 1/4 lbs. and 2 1/4 lbs. capacity. The Thuro ball jointed hose can attach to the Thuro lubricator but is recommended by the makers for all sizes and styles of hand compressors. The ball joints swivel in all directions and make the attachment very flexible. List, F-13, two joints, 12 3/4 in. long \$6.50; F-15, three joints 17 3/4 in. long \$9.50.



*Thuro Lubricator*

# Periodic Maintenance Cuts Service Costs

*Prevention Rather Than Cure Advocated by Engineers as Means for Greater Satisfaction of Car Owners and More Profit for Dealers*

By DONALD BLANCHARD

INTEREST at the service engineering meeting held in Chicago, Nov. 9 and 10, under the joint auspices of the service committee of the National Automobile Chamber of Commerce and the Society of Automotive Engineers, centered around the general topic of reducing the cost of service to the car owner by prevention rather than cure.

Among the major subjects discussed in this convention were periodic maintenance, piece work compensation of mechanics, corrosion of engine parts, service tools, trouble diagnosis and fuels.

Following the address of welcome by O. B. Zimmerman, International Harvester Co., G. Frank Lord, Durant Motors, Inc., presented a paper in which he emphasized the importance of periodic maintenance service as a means of preventing trouble and urged that car manufacturers assist their dealers in establishing systems which would bring owners into the shop at regular intervals for inspection, lubrication, and adjustment.

Although performance and cost of production are prime considerations in the design of a car, D. C. Hinckley, Hinckley-Myers Co., pointed out that often these objectives could be attained in a new model without making it necessary for the repairman to increase his investment in service tools materially. He cited one make of car which has had four new models in recent years on each of which small changes in the hubs had made it necessary for the service station to provide itself with a special wheel puller. To illustrate his point further, Mr. Hinckley suggested that crankshaft gears could be designed so that the repairman could handle a larger number of cars with a fewer number of pullers.

## Discuss Corrosion of Parts

At the session on corrosion of engine parts, the speakers were M. A. Thorne, Tidewater Oil Co., and Frank Jardine, Aluminum Co. of America. This trouble is evidenced by noisy operation, looseness in the timing chain, blow-by the pistons and discoloration and pitting of parts. It is caused by sulphurous and sulphuric acids, resulting from the combustion of the sulphur content of the fuel, together with the water produced by combustion and the moisture contained in the air drawn in by the carbureter. As a direct result of combustion about 9 lbs. of water are produced for each gallon of fuel consumed but, of course, a major portion of this goes out of the exhaust.

The only successful way, according to Mr. Jardine, of preventing condensation on and consequent rusting of the cylinder walls, is to provide a lubricating sys-

tem that will supply oil to these surfaces as soon as the engine starts. This requirement is met by the splash system. In pressure systems, he recommended placing the pump in the sump as in a

## Some Pertinent Thoughts From the S. A. E. and N. A. C. C. Service Convention in Chicago

By getting owners to adopt a plan of periodic maintenance, which would bring their cars into the service stations at regular intervals, much trouble could be avoided and the cost of operation reduced. Correct diagnosis of trouble is important and frequently wrong interpretation of symptoms results in unnecessary work being done for which the owner is charged.

Piece work compensation fosters the introduction of modern shop equipment which results in better work at less cost.

Engineers should give more attention to the service tool equipment already in dealers' service stations when making changes in car design.

higher position it might not be able to lift a cold, viscous oil; the use of a 30 mesh or coarser oil screen; oil lines 1/2 in. or more in diameter; a by-pass around the oil screen so that clogging will not stop circulation; clearances at the connecting rod bearings of .0015 in. on the diameter and .006 to .008 in. at the sides; and the use of light oils in winter.

On engines and parts to be stored for any considerable length of time in cold weather, he recommended a protective coating of castor oil as it has been found to be more resistant to the destructive action of water than mineral oil.

Diagnosis of trouble was covered in a detailed manner by J. C. Talcott, Pierce Arrow Motor Car Co. In this paper, each unit was taken up separately, the symptoms of trouble were described and the interpretation of these symptoms given.

The paper presented by John Squires and Carl Breer of the Chrysler Corp., was really a history of the development of an organization to service the Chrysler. Much trouble was experienced also as a result of the failure on the part of

the dealer service man to follow factory instructions, particularly as regards adjustments.

A real instruction book was also emphasized as an important factor and an effort is made to get dealers to have one of their service men spend half an hour going over this book with each new owner.

Leakage past valve stems changes mixture proportions despite the effectiveness of the carburetion and manifold with resultant loss of power, increase in crankcase dilution and rough operation, according to Frederick Alberty who recommended the use of the felt packing at the top of the valve guide to insure tightness at this point. A method of testing an automobile which informs its owner as to its condition, was described by F. E. Edwards.

## Chemical Factory on Wheels

The automobile is a chemical factory on wheels, according to Dr. T. A. Boyd, General Motors Corp., who talked on fuel from the service standpoint. He explained that the raw materials consisted of air and gasoline and that the output consisted of carbon dioxide, carbon monoxide, water and nitrogen.

Not much trouble is experienced with foreign matter in fuel, provided the channels of supply are kept clean. Some cracked gasolines will give a brown residue which will deposit itself on heated parts such as manifolds and carbureters. The formation of this residue, which results from improper manufacture, is accelerated by storage in a warm place. It may be removed most easily with acetone. In addition to corroding iron and steel parts, sulphur in the fuel will also attack brass and copper parts in some cases.

Among the devices described by Donald Blanchard in his paper were the Cadillac crankcase ventilating system, the Marmon purifier, the Kingston aerator, the Bijur chassis lubricating system, the Rushmore steam cooling system and the Oakland harmonic balancer. Discussion following this paper centered chiefly around steam cooling.

Judging from expressions of opinion at the Question Hour, which closed the convention, the car factories are sold on piece work compensation of service mechanics. It was pointed out that it is likely to be an important factor in getting men who are now going into other industries because of higher pay, to enter the service business as the piece work plan enables them to earn as much or more than they could obtain elsewhere. A number of examples were cited where the adoption of this method has turned losses into profits.

# Peerless Enters Field of Medium Price Six

*New Model Known As the 6-80 Series Offered in Six Body Styles. Price of Standard Sedan Is \$1595. Engine of Car Maker's Design to Be Built by Continental Motors*

By LESLIE S. GILLETTE

ENTERING the medium price six cylinder field with a sedan at \$1595 and mounted on a 116 in. wheelbase chassis employing a 3¼ by 4½ in. L-head engine and four wheel brakes, the new car of the Peerless Motor Car Co. will broaden their dealer's line which hithertofore consisted of a larger six and an eight cylinder model.

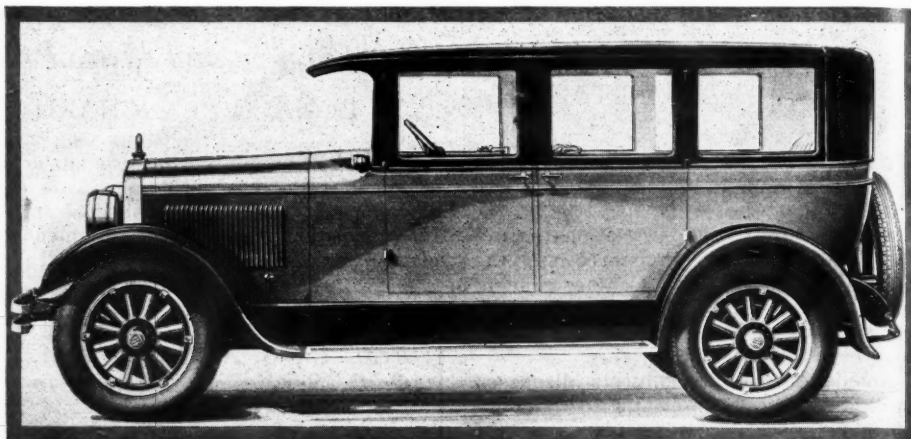
While six body styles will be offered on the new model known as the 6-80 series, production is being concentrated at the present time on the standard four door sedan. It is the intention of the Peerless company to announce a new body model each succeeding month and plans have been perfected to have both a four door close coupled sedan and a two door sedan available at the national automobile shows.

## Plan 3-Passenger Coupe

Early in the new year a three passenger coupe will be ready with a 3-5 passenger sport roadster next, followed by the remaining model which will be a five passenger touring car. With the exception of the \$1595 standard sedan referred to, prices for the other body styles have not yet been decided, but it is understood that the standard sedan will have the highest list with the prices scaling down to the five passenger open car. The last mentioned model will be ready in time to enter the open car selling season in spring.

The new models have an exterior appearance which resembles the lines of the larger six very closely while the design of the chassis is characterized by its conventional and exceptionally sturdy layout. An unusual feature of the chassis for a car of this size is the depth of the frame which is given as seven inches. The seven bearing engine is assembled with the single plate clutch and three speed transmission forming a unit powerplant supported in the frame at four points. Metallic universal joints at either end of the propeller shaft transmit the drive to the semi-floating rear axle, which provides a gear ratio of 4 5/11 to 1. Lockheed four wheel hydraulic brakes and 30 by 5.77 in. balloon tires are standard equipment.

Through special attention paid to the



*The five-passenger sedan listing at \$1595 will be the first model Peerless will produce on its new line of six-cylinder cars. Balloon tires and hydraulic four-wheel brakes are standard equipment*

angularity of the spring shackles and the graduating of the springs themselves, exceptionally easy riding qualities are claimed for the new model. The rate of acceleration is also said to be unusual while the car is credited with a high speed of better than 70 m.p.h. and a speed of 42 m.p.h. in second gear.

Although conceived and designed in the Peerless shops, the engine is specially constructed for the new car by the Continental Motors Corp. This is the first of a series of engines to be built outside of the Peerless plant for a number of years. Rated at 25.35 h.p. and with a piston displacement of 230.2 cu. ins., the new powerplant develops 68 actual brake h.p. at 2,800 r.p.m. on the dynamometer. The peak torque is stated to be 149.5 ft. lbs. at 1,100 r.p.m. A new type of high turbulence combustion chamber and special valve timing are two of the important factors contributing to the high output of the engine.

Gray iron cylinders are cast en bloc

with the upper half of the crankcase having the flange for the pressed steel oil pan 2½ in. below the center line of the crankshaft. The detachable cylinder head is secured by 22 steel studs. Each of the seven main crankshaft bearings is held in a heavily ribbed bulkhead which runs from one side wall of the case to the opposite side wall. The carbon steel crankshaft is of massive construction employing 2¾ in. diameter main journals and weighing 54¼ lbs.

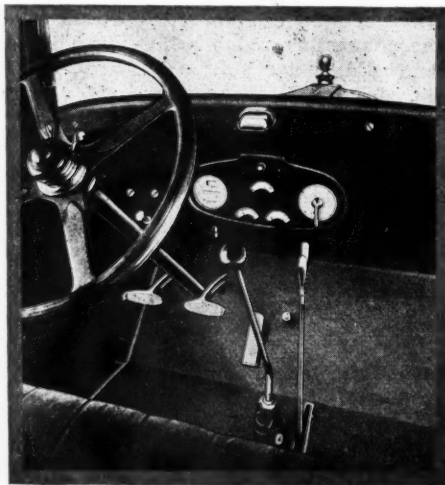
## Gray Iron Pistons

Connecting rods of "I" beam section have a bearing diameter at the big end of 2½ in. with a length of 1½ in. At the upper end the gray iron pistons are secured by a 1 in. diameter piston pin formed from solid bar stock and locked in the piston by a set screw. An additional locking device in the form of snap rings at the ends of the pin is also provided. Hand fitted to the cylinders, the pistons are provided with three rings each ⅝ in. wide above the pin, the bottom ring being a special oil control type and of Drainoil brand.

A new developed low pitch Morse chain No. 54, 1¼ in. wide and making for unusual quietness provides the front end drive for the accessories and camshaft. Adjustment for the timing chain is provided for in the movable generator—ignition unit mounted on the right side of the engine. The pressed steel timing case cover can be removed without disturbing the engine mounting making the chain and gears readily accessible, while all gears are marked to facilitate re-timing of engine.

Both valves are interchangeable, the head diameter being 1½ in., the length 4 45/64 in., stem diameter ⅝ in. and the lift 21/64 in. for both.

Located in a position on the outside of the crankcase near the carburetor, the oil pump is driven by helical gears off the crankshaft, the take off being placed on a line between cylinders number 5 and 6. This pump incorporates the oil pressure relief valve in the same



*The specially attractive all Bakelite steering wheel on the Peerless Six is apparent in the photograph of the front compartment. The treadle type of foot accelerator should be noted*

casting, the unit being secured to the crankcase by four bolts. By removing six additional bolts, the pump cover may be detached exposing the spur pump gears. Lubrication is by the full pressure system, oil being forced through tubing to each of the main bearings. Through the hollow crankshaft oil passes to the connecting rods while the cam shaft bearings are oiled by passages drilled in the crankcase. Other parts are lubricated by mist, the surplus oil falling back upon the oil pan tray and is screened before entering the oil pan proper. There is another screen of circular shape below the screen from which the oil is drawn by the pump above. As a further guard against impurities in the lubrication system, a Purolator oil filter is bolted on the dash.

A plain tube cross throttle type of Stromberg carburetor model OX-2 with a nominal outlet size of  $1\frac{1}{4}$  in. is bolted to the cast integral intake and exhaust manifold.

### Electrical Units

With the exception of the 6-8 volt U. S. L. make of battery, the electrical units are of Auto-Lite manufacture. Both starter and generator are mounted on the right side of the engine, the former carrying the S. A. E. mounting and an outboard type of Bendix drive employing an 11 tooth pinion. The generator which is mounted on a separate support casting is driven from the front end chain by a special spring drive at  $1\frac{1}{5}$  engine speed. On this special casting the semi-automatic advance distributor unit is placed and is driven from the generator drive by spiral gears. The accessibility of this type of construction is demonstrated by the fact that either the distributor or generator can be removed without affecting the other.

Between the transmission and the engine a single plate dry disk, Borg and Beck clutch, model No. 10-QL is employed. The tens pline  $1\frac{1}{2}$  in. clutch shaft is supported at either end in roller bearings and carries a graphite throw-out collar requiring no attention or lubrication.

The gearset is of Detroit Gear Machine

Co. manufacture with special modifications and provides three speeds and one reverse of the following ratios:

Low: 3.11 to 1.

Second: 1.70 to 1.

Third: 1.00 to 1.

Reverse: 3.78 to 1.

A simple linkage is employed to connect the emergency brake lever with the transmission brake. The dimensions of the brake drum are 7 in. diameter by 2 in. wide.

A two inch tubular propeller shaft with an oil-tight metal universal joint at either end transmits the power to the semi-floating Columbia make rear axle. Except for slight modifications, the axle which is designed for the Hotchkiss form of drive is identical to Columbia-axle model number No. 12035. A standard gear ratio of 4.45 to 1 for all body models is provided, the teeth on the  $9\frac{1}{4}$  in. diameter ring gear being 49 and those on the pinion 11.

Lockheed hydraulic brakes of the external expanding type having drums 14 in. in diameter and  $2\frac{1}{2}$  in. wide are used on both axles. The thickness of the friction lining is  $\frac{5}{8}$  in. and the width 2 in. Brake anchors are set 45 deg. ahead of center giving  $\frac{3}{4}$  wrap on the brake bands and making for more effective and smooth operation. Following customary practice the master cylinder of the braking system is bolted to an extension on the clutch housing.

The front axle is a Columbia model No. 1200-H of "I" beam section with the  $\frac{1}{8}$  in. diameter steering pivot pins at an inclined angle. As on the rear axle, Timken roller bearings are employed. Steering knuckle thrust is taken by a radial ball bearing which together with the Ross cam and lever type steering gear provides easy turning of the wheels. The gear ratio is  $11\frac{1}{2}$  to 1, while the turning radius in either direction is approximately 20 ft. Steering wheel whose diameter is 18 in. is of attractive design and formed throughout of Bakelite with

the short throttle and spark levers and the horn button mounted in the center.

Semi-elliptic springs are employed, those on the front being mounted above the axle while those on the rear are underslung, the dimensions being  $37\frac{3}{4}$  in. long by 2 in. wide with 8 leaves on the front and  $54\frac{1}{4}$  in. long by  $2\frac{1}{4}$  in. wide with 11 leaves at the rear.

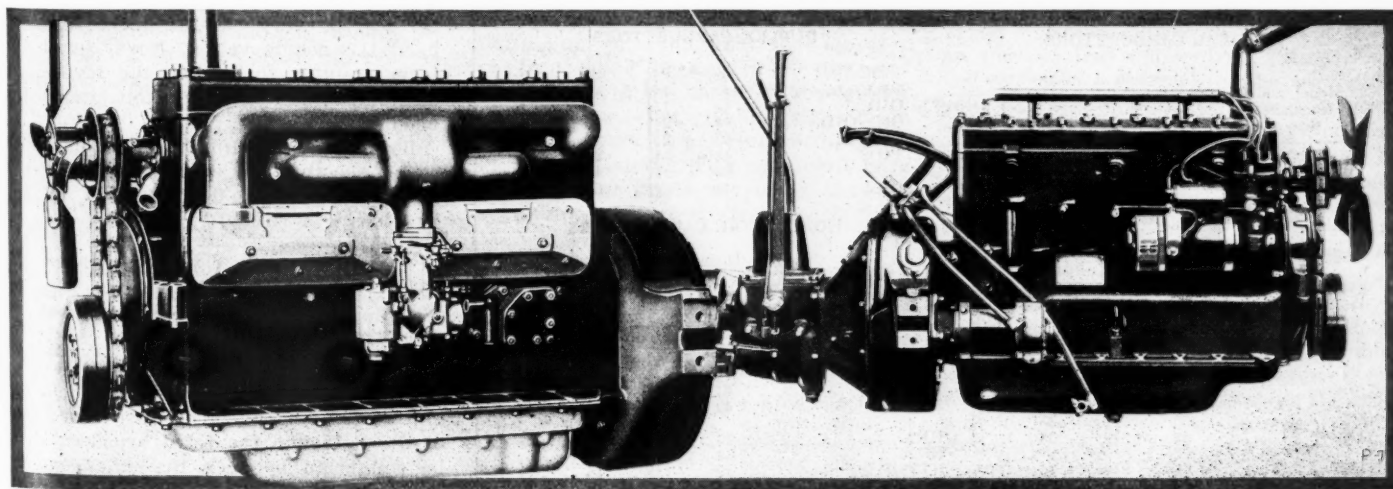
A rugged straight tapered frame is provided for in the new car. The maximum depth of the side channel members is 7 in. The thickness of the stock is  $\frac{1}{2}$  in.

Standard tire equipment consists of 30 by 5.77 in. balloon tires mounted on Firestone "A" rims attached to 12 spoke artillery wheels. In addition Gabriel snubbers are used all around while the chassis lubrication is by the Alemite system.

### Semi-Elliptic Springs

All bodies including the present sedan will be of composite wood and steel construction while the exterior finish will be in three color lacquer with suitable striping. On the closed cars a fine grade of mohair plush will be employed for the upholstery with genuine Spanish leather used on the two open cars. In addition to the usual dash instruments which are mounted in a panel embodying the radiator design, a gasoline gage is installed which together with the following items are fitted as regular equipment. Windshield wiper, rear view mirror, rear traffic signal, cowl lights, transmission lock, snubbers all around, foot rest, robe rail besides a dome light and curtains on the closed cars.

The headlights which are nicked to correspond with the radiator are fitted with special lens and a single 21 c. p. bulb with the dimmer control mounted in a combination switch on the metal dash. All interior hardware on the closed jobs including the rotary window regulators, will be given a bright and dull silver finish. Ready for the road but excluding passengers, the sedan model weighs 3310 lbs. with 1715 lbs. of the weight taken on the rear wheels.



Left: The combined fan and water pump unit on the front of the cylinder block and the Lanchester vibration dampener are apparent in the three-quarter view of the Peerless Six engine; right: Right hand side view of the complete Peerless Six power plant showing the simple linkage between the hand brake and the transmission lever

# The READERS' CLEARING HOUSE

Questions and Answers on Dealers' Problems

BUILDING - ELECTRICAL - FLAT RATES  
SHOP - LEGAL - PAINT & TRIM - ACCOUNTING

## Adjusting Zenith Float Level

Q.—What is the proper float level on the Zenith carburetor and when installing new needle valve and seat, how is this float level checked?—Cliff Green, 601 Pleasant View, Trenton, Mo.

Whenever possible, it is well to have this work done by an authorized Zenith service station, as a special test gage is needed in order to accurately check the float level. As different size gages are needed for different carburetors, it might not pay the average repair man to have this equipment. The data necessary for checking the gasoline level in the float chamber, however, is given in the table and in the illustration which shows a section through the carburetor.

Where a special gage is not available, it occurs to us, that an approximate test might be made by drilling a small hole in the float chamber cover through which a small round stick painted black might be inserted. This method would prove somewhat difficult, however, because the float very nearly fills the float chamber, and does not leave much room for inserting the stick.

### Another Method

Another method would be to drill a small hole at the proper level line, as determined from the table and another very small hole slightly below it and a third one slightly above. The gasoline should flow through the lower hole and just barely moisten the middle hole and should not flow through the upper hole. After it was found that the level was correct, the float could be removed and the carburetor dried out and the three holes soldered up again. In making a test of this sort a test tank should be

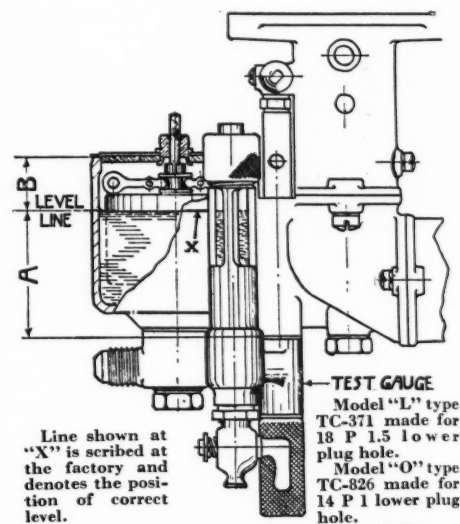
used located 30 inches above the carburetor.

The only place any adjustment of the level should be attempted is at the Needle Valve Collar, its relative position on the Needle Valve determining the point of closing of the Valve. Remove the Float Cover from the carburetor, draw out the wire holding the lever weight axles and remove the needle valve entirely from the cover.

Take a knife or any sharp instrument, and mark around the needle valve at the lower side, of the collar (the side towards the point). This will show the original setting of the collar in case it is found necessary to bring it back to this position.

To lower the level, scratch a mark on the needle valve 1/32 of an inch above the collar. Provide a block of hard wood through which a hole slightly larger than the largest diameter of the needle valve has been drilled. Put the needle valve into this, with point down. Now, with a flame soften the solder holding the needle valve collar on the valve, first wetting it with soldering acid or paste, and when the valve is free in the collar tap it down to the upper mark, or 1/32 of an inch. Allow it to cool, thus again setting the solder, and replace in the float cover. This will lower the level.

If further lowering is found necessary repeat the above, but never go further than 1/32 of an inch at a time. Next, replace the cover on the carburetor, press the needle valve down tight against its seat with the finger and mark a line around it at the upper edge of the boss on the cover that takes the thread of the



Line shown at "X" is scribed at the factory and denotes the position of correct level.

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dust cap. Remove the cover from the carburetor and with the fingers bring the mark on the valve back to the above position and see what position the lever weights are set. If they are not horizontal it means that you have gone too far, that the travel of the valve will be insufficient and that the float mechanism will not function properly. This travel should not be less than 5/64 inch.

To raise the level, move the collar towards the point of the needle valve. To do this grip the needle valve between two blocks of wood in a vise. Provide a piece of copper or brass tubing which can be slipped over the upper end of the valve and against the top of the collar. Tap lightly on this tube to move the collar and be very careful not to mar or bend the needle valve. Never bend the lever weights to change the level, and do not put additional gaskets under the needle valve seat.

Before reassembling the float chamber cover, see that the counterweight levers swing freely and do not bind in the needle valve collar.

### INSTALLING A FIELD FUSE

Q.—Is it possible to put a field fuse on an American Bosch generator used on Essex cars and if so how should it be connected.—G. & J. Stromer, Battery Service Station, East Main street, Gillett, Wis.

Such a fuse can be installed if desired, and should be connected between one end of the field and the third brush or may be connected between the other end of the field and ground. The latter connection would be the easiest to make as only one end of the fuse would have to be insulated.

VERTICAL CARBURETORS				DUPLUX CARBURETORS					
*Model and Nominal Size	Dimension A		Dimension B						
	Milli- meters	Inches	Milli- meters	Inches					
CV20.....	31	1 1/8	11	7/16	48DC.....	68	2 3/4	31	1 1/2
L4, L5, L6, .....	59	2 3/8	29	1 1/8	O4D.....	42	1 3/4	29	1 1/8
L7, L8 .....	73	2 7/8	29	1 1/8	O5D.....	48	1 7/8	29	1 1/8
O3 1/2, O4, O5.....	42	1 3/4	20	3/4	O6D, O7D.....	61	2 1/2	29	1 1/8
Q4, Q5.....	42	1 3/4	20	3/4	O8D.....	60	2 3/4	29	1 1/8
Q6.....	61	2 3/8	29	1 1/8	T4DS.....	44 1/2	1 3/4	23	1 1/2
T3.....	40	1 1/2	15.5	3/4	US52.....	68	2 3/4	40	1 3/4
T3 1/2, T4.....	42	1 3/4	18	3/4	US54.....	40	1 3/4	67	2 1/4
T5.....	34	1 1/8	18	3/4					
U4.....	59	2 3/8	18	3/4					
U5.....	60	2 3/8	23	7/8					
U6.....	64	2 5/8	23	7/8					
U5F.....	61	2 3/8	26	1 1/8					
U6F.....	62	2 5/8	26	1 3/8					
UL5.....	59	2 3/8	23	7/8					
UL6.....	64	2 5/8	23	7/8					

HORIZONTAL CARBURETORS				
*Model and Nominal Size	Dimension A		Dimension B	
	Milli- meters	Inches	Milli- meters	Inches
HF2 1/2, HF3.....	37	1 1/2	15.5	3/4
HF4, HF5.....	40	1 3/4	18	3/4
HP4, HP5.....	61	2 3/8	20	3/4
HF.....	42	1 3/4	20	3/4
HR26.....	30	1 1/8	16	5/8
HR26.....	34	1 3/8	16	5/8
HT3 1/2F.....	42	1 3/4	16	5/8
HT4F.....	42	1 3/4	18	3/4
HT5HF.....	42	1 3/4	20	3/4
HU4.....	59	2 3/8	20	3/4

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# Planning Your New Building

By TOM WILDER



## Adding Second Floor to Old Building

Q.—We have read with considerable interest suggestions that you have given others regarding building layouts for automobile business. We now plan larger quarters for ourselves and will appreciate your suggestions. Our present building is one story. A penciled sketch herewith shows arrangement and size. We want another floor and think that the space now occupied by the shop would make an ideal used car sales room. A quick service space might be left beside ramp leading to shop on second floor. Surplus new car stock might also be kept on second floor.

Our present new car salesroom seems large enough—50 by 40 ft. but the front needs modernizing. Possibly a side entrance for cars would be better, however, the street in front is wider. We often wish that we could move cars from shop or wash rack without having to drive out into the street. We like the idea of having the office in the center of the building adjoining parts room, and where view of both salesrooms might be had.

The service station employs four or five men. We carry about \$6,000 parts, a few tires and accessories.—Baldwin Motor Company, Tyler, Tex.

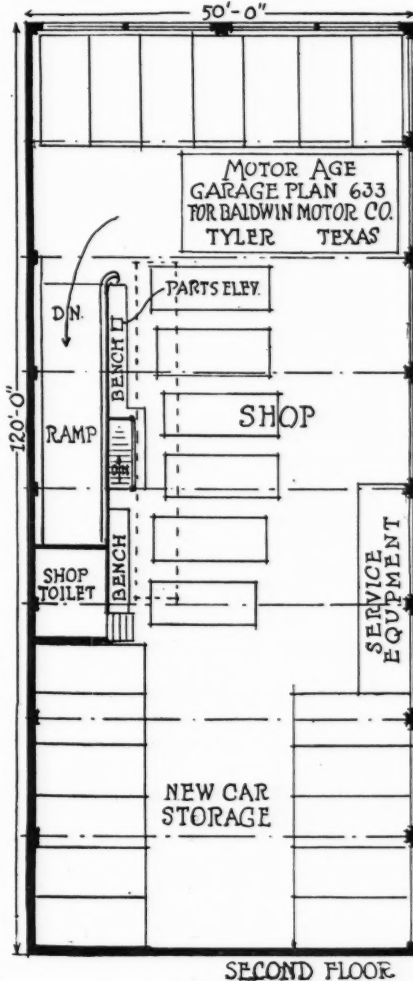
### Ramp Reduces Space

We have tried to carry out this plan embodying the ideas you have suggested relative to your showroom and quick service station. It is always difficult to introduce a ramp into a building as narrow as 50 ft. in width and no doubt you will be disappointed when you see how the back part of your building has shrunk, because of the introduction of the ramp. We have reduced the width of the ramp to the minimum in order to have it kill as little space as possible and believe we have succeeded quite well in arranging it to avoid awkward turns and congestion both at the top and bottom. The only features we do not like is the lower end and the space reserved for quick service and wash rack. This should be three or four feet wider and if you can steal a little space from your office and a little from the used car showroom, we think it would be well to add it to this part so that there would be room for cars to pass coming in and going out.

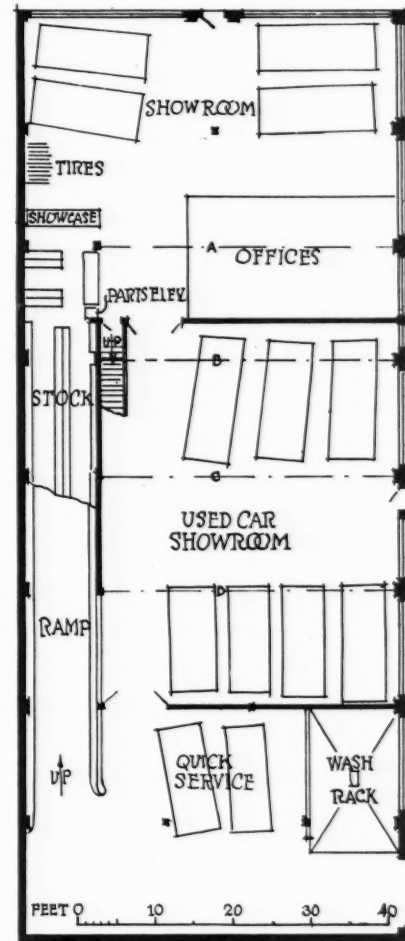
By using 39 ft. girders at A—B—C and D supporting the second floor the floor arrangements will not be dependent on any column and this space may be rearranged without interfering in any way with the construction.

You have given us no details as to the construction of your present building and therefore we have gone ahead as if we were planning a new building and no doubt the addition by reason of extensive alteration etc., will be virtually a new building.

As you suggest it is much better to bring the cars into your showroom from the inside than the outside and consequently we have arranged an entrance at the rear between the offices and the



SECOND FLOOR.



MAIN FLOOR.

Usually a ramp is a difficult thing to plan into a 50 ft. building and this is no exception.

stockroom. The stockroom is planned for accessories and parts and a dumb waiter or electric elevator is planned to take parts to the shop on the second floor. You will note that this elevator does not stand in a vertical line, but slants to avoid the ramp. The elevator is not large, but undoubtedly large enough to carry 90 per cent of the parts going to the shop. The ramp will have a 20 per cent grade supposing that the second floor is 13 feet above the first.

### TEXAS LIEN PROCEDURE

Q.—We have in our shop a Studebaker car which was left here for repairs, and after we had made all repairs and had the car fixed up the man that owns the car wrote us a letter telling us not to fix the car. We then mailed him a bill for same which was \$415. At that time he was in Arkansas and since then we have not heard from him. He told us when he left the car here that the Insurance Co. would pay the bill as he had it insured, but we have never heard from them. Now we want you to tell us how we can dispose of this car and get our money out

of it. We have had the car here and ready for 60 days or more.—W. E. Norvell, Malakoff, Texas.

Chapter Eight (8) Article 5665 of the Texas Statutes (1920) gives you a lien on the repaired automobile, authorizing you to retain possession of the car until your charges for repairs are paid. Where no price is agreed upon then the charges must be reasonable and the customary and usual charges. After holding possession for 60 days without payment the repairman should notify the owner to pay the charges, and if such charges are not paid within 10 days after this notice then the garagekeeper, after 20 days notice of intended sale, may proceed to sell the repaired property at public sale and apply the proceeds to the payment of charges and costs and pay over the remaining balance to the owner. If the owner's residence is beyond the state or is unknown, the repairman is not required to give the ten days notice to the owner before proceeding to give notice of sale and advertising the public sale of the property.



# Defeating Old Man Wear and Tear

## A Half Way or Thorough Job on Main Bearings

Q.—Would it be advisable to loosen all the main bearings on a D-45 Buick six and slip in an upper bearing half when the old one is burned out, or would you advise tearing down the engine completely, removing the crankshaft and lining up the four main bearings? — Wisconsin Reader.

On a car as old as this one, it is probable that the crankshaft journals are worn undersize, so that the new main bearing would not fit properly. Accordingly from a mechanical standpoint it is much better to tear down the engine and remove the crankshaft, also checking the crankshaft journals to see that they are not eccentric. One point to keep in mind is the value of the car as compared to the cost of doing the job. If the car is not worth spending very much money on, it might pay to try the first method of slipping the bearing in place, although there is quite a chance that the bearing improperly fitted would pound out in a short time.

Q.—Some mechanics have the idea of taking up the front and center main bearings on a Ford engine just by loosening the bearing and tearing out the shims, and leaving the rear main bearing alone. I do not think that is a good job, do you.

If this is repeated it draws up the front and center main bearings and tends to spring the crankshaft. To keep the crankshaft properly lined up the same number of shims should be removed from all three bearings.

Q.—What would cause the connecting rod bearings on a 490 Chevrolet to crack up and fall out of the bearing if the bearing was properly fitted and had plenty of oil? The oil pump was working all right. My idea is that the rod may be twisted or bent.

A twist or bend in the rod may cock the piston or cause the upper end of the connecting rod to knock against the piston boss, but we do not believe that it would cause the bearing to crack up. This might be due to poor material in the babbitt or it might be due to the babbitt not making good contact with the connecting rod itself, so that the bearing material was not well supported, and had tendency to flex and eventually crack.

Q.—How many one thousandths does 1/64 inch equal and how many one thousandths does 1/32 of an inch equal?

We are publishing a table of decimal equivalents of 64ths which should be of service to you as well as other MOTOR AGE readers. When you have any fraction and have no table of decimal equivalents always divide the top figure of the fraction by the lower figure of the fraction. In the case of the fraction 1/64 you take the figure 1, put a decimal point after it and add as many ciphers as you need and divide this by 64.

Q.—Would light weight pistons improve a Ford Coupe in obtaining more speed and

Table 21.—Decimal Equivalents of Fractions of One Inch.

1-64	015625	17-64	.265625	33-64	.515625	49-64	.765625
1-32	03125	9-32	.28125	17-32	.53125	25-32	.78125
3-64	046875	19-64	.296875	35-64	.546875	51-64	.796875
1-16	0625	5-16	.3125	9-16	.5625	13-16	.8125
5-64	078125	21-64	.328125	37-64	.578125	53-64	.828125
3-32	.09375	11-32	.34375	19-32	.59375	27-32	.84375
7-64	109375	23-64	.359375	39-64	.609375	55-64	.859375
1-8	125	3-8	.375	5-8	.625	7-8	.875
9-64	140625	25-64	.390625	41-64	.640625	57-64	.890625
5-32	15625	13-32	.40625	21-32	.65625	29-32	.90625
11-64	171875	27-64	.421875	43-64	.671875	59-64	.921875
3-16	1875	7-16	.4375	11-16	.6875	15-16	.9375
13-64	203125	29-64	.453125	45-64	.703125	61-64	.953125
7-32	21875	15-32	.46875	23-32	.71875	31-32	.96875
15-64	234375	31-64	.484375	47-64	.734375	63-64	.984375
1-1	25	1-2	.50	3-1	.75	1	1.

101305

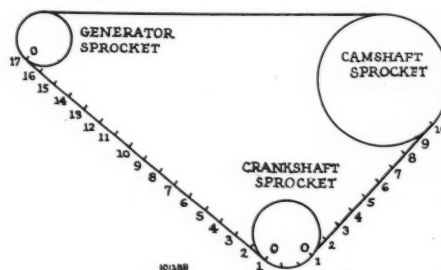
power? Are regular Ford piston rings used in these pistons.

In general the lighter the piston the higher speed can be obtained from the engine. If you refer to aluminum alloy pistons, it is customary to use a concentric ring, but recommendations will be given by the piston manufacturer.

## REPLACING TIMING CHAIN ON A STAR

Q.—Give instructions for installing new timing chain on Star car where old chain has broken.—W. L. Mauk & Son, Eakly, Okla.

An illustration is given showing the crankshaft sprocket together with the camshaft and generator sprocket. On the crankshaft sprocket there are two teeth marked with the letter O and on the camshaft and generator sprocket there is one tooth so marked. The engine should be turned until the center mark on the flywheel is in line with the indicator which will leave the marked teeth of the crankshaft sprocket in the positions indicated. With the chain in place you can start counting the teeth on the chain beginning with No. 1 which is the tooth at the O mark on the crankshaft sprocket. The tenth tooth should register with the O mark on the camshaft sprocket, while the seventeenth tooth should register with the O mark on the generator sprocket. The exact setting of the generator sprocket is not so essential as the camshaft sprocket although if properly set it will facilitate timing the ignition.



Setting sprockets and chain to get correct valve timing

## Larger Oil Groove Stops Oil Leakage

Q.—I am asking for some information about the rear main bearing of a Hupmobile model R-13 which has an oil leak. This oil comes out of the rear end of the oil pan, but I think it comes through the rear main bearing, which I believe is worn side ways. Would like to know if the bearings in this engine are poured in the block or if they are of the replaceable type. In changing bearings is it necessary to take the engine out or can they be replaced without doing this.—General Mechanic.

The trouble is usually due to slight wear in the rear main bearing, lower half. This bearing takes the end play of the crankshaft and in some cases the oil thrower, which is a ring on the crankshaft touches the groove in the lower half of the rear main bearing and this has the tendency to cause oil to work out into the pan. The remedy is to remove the engine pan and take off the lower half of the rear main bearing and see that the groove is large enough so that the oil thrower on the crankshaft does not touch it. If necessary an entire new cap can be used, but you can determine this when you see how much the ends of the cap are worn. If the wear is slight, enlarging the groove somewhat will overcome this condition.

## GOOD WORKMANSHIP HELPS ON OTHER ENGINES ALSO

Q.—Being a subscriber to MOTOR AGE for some time past and having enjoyed the benefit of other mechanics' experience, I now wish to reply to the item published on page 26 of October 1, 1925, issue signed by the Main Garage, Kenton, Ohio. Having had considerable experience on Essex 4 cars myself I have in the past run into the same trouble as they are having, once in No. 2 and once in No. 4 cylinder. I have found the only remedy was the perfect alignment of the connecting rod and the perfect fitting of connecting rod bearings. Because of the fact that these motors have a very long stroke and fairly heavy rods they are prone to slap to the side under compression, if the rod is cocked or if rod bearing is somewhat faulty. Shorting the cylinder will also stop a noise of this character.—Ira W. Thornton, Pomeroy Motor Co., Longview, Wash.

# Clearing Up Electrical Trouble

EDITED BY A. H. PACKER



## Replacing the Regulator on a Grant Six

Q—I have been a subscriber and reader of Motor Age for several years, and have received lots of good information from your Reader's Clearing House columns. Now I have a question of my own to ask, and would appreciate seeing the answer published in your valuable magazine.

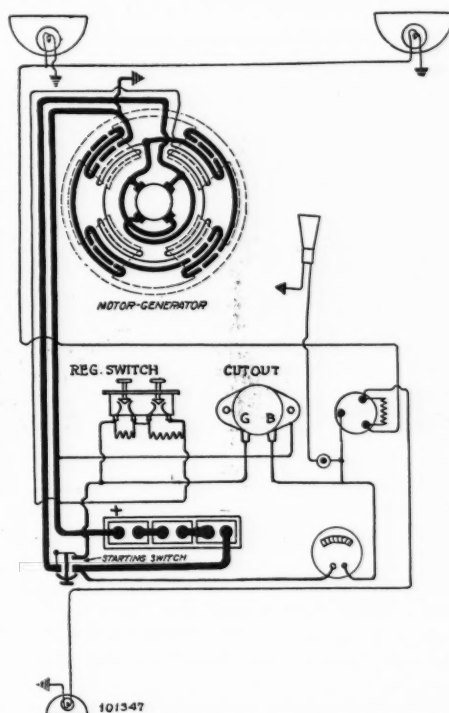
I have been having trouble with an Allis-Chalmers motor generator as used on Model V Grant 6. The motor works fine, but the generator only works occasionally. I have had the unit out and tested thoroughly, but believe the main trouble to be in the relay regulator. I have removed the old relay regulator from the switch panel and mounted a Basco regulator on the dash; together with the fuses and dimming units. I would like to know if there is any way to use a straight cut-out on this type of generator and if there is any other way of regulating the output of the generator than by the system I now have.—L. G. Devaney, 406 W. Cass Street, Roseburg, Ore.

A regulator of this sort may be replaced by a conventional cutout and a switch with resistance units on the back. We are showing a diagram which gives a method of changing the circuits. The resistance units on the back of the switch may be made out of iron or German silver wire. Stove pipe wire might be tried at first and one coil should be twice as long as the other. With this system it is desirable to use an ammeter so that you will know how much charging current is being produced. When starting up the engine the two buttons on the regulating switch may be pushed in so as to short out both resistance units. This will give the maximum charging current. Then as the current increases the left hand button drawn out will effect some reduction in the charging current. The right hand button controlling double the resistance will have more effect and with both buttons out we have the maximum effect. If the current still goes too high it will be necessary to use different resistance coils using either smaller wire or a greater length of wire.

## HUNTING FOR A POOR CONTACT WHICH IS MAKING GENERATOR OVERHEAT

Q—We are having trouble with Auto-lite generator model GJ on a Chevrolet superior, on which the armature gets hot and after a few weeks burns out. It is the third armature we have installed. We have also installed new brush holders and brushes and the armature runs true and free. The bearings are perfect. It was tested for shorts and grounds. We also had two electrical service stations check up the generator, but it seems to be a puzzle to everyone. We had it run on the test bench at different speeds, and without the cutout, but it heats up in three minutes. It seems as if the ground brush is at fault as it gets hot as the armature. Could you suggest anything to overcome this before we install a new generator? —Universal Garage, 24 Hartford Avenue, New Britain, Conn.

If you are using rewind armatures



This method of regulation is simple but necessitates watching the ammeter

there is a possibility that the laminations in the old cores are shorted together from having rubbed the pole pieces at some time or other. It is also possible that the winding is incorrect or that the wire which is used is too small. You say that the armature turns freely, but we wonder if you have tested it with field current flowing. To do this you can lift the main brushes and run current through the field only and then see if the arma-

ture turns easily. It will usually turn a little harder than with no current flowing, but should not rub or bind at any particular place.

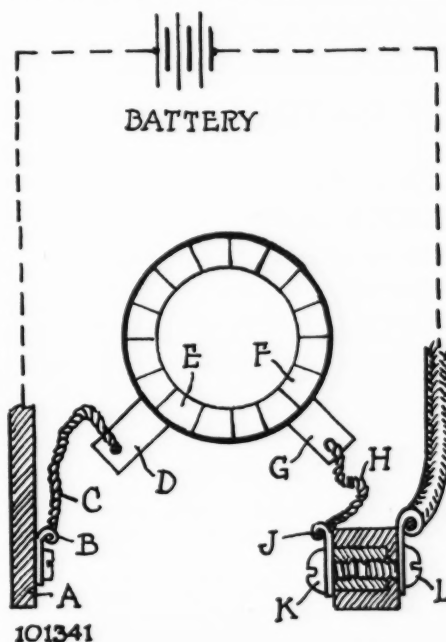
From what you say about the brush heating up we think there is a high resistance where the brush pig tail or shunt connection is attached to the brush. To thoroughly check the internal portions of the generator to make sure there is no high resistance you should use a voltmeter and test as indicated in the sketch we have made. A voltage reading from A to B would locate a high resistance between the pig tail terminal and the frame of the generator. A test from B to C would find a poor connection between pig tail and terminal, a test from C to D would locate a high resistance between the brush and its shunt connection or pig tail. In all of these tests you should get practically no voltage when the generator is running and delivering 10 or 12 amperes to a battery.

A voltage test from the brush D to commutator segment E just under the brush would show the loss of voltage due to the brush contact, while a test from F to G would show a similar condition at the other brush. In this manner you can test from G to H and from H to J, from J to K and from K to L. There will be of course, a slight loss at each of the points mentioned, so that the voltage from E to F might be 7.9 while the voltage from A to L might be 7.7. Practically all of this voltage however, should be lost between the commutator and the brushes.

## Some Lamp Flare Is Normal

Q—Please advise why the lights on an Overland 91 flare up and down as the engine speed increases or decreases. The size of the bulbs makes no difference.—Earl Bowman, Oneida, Ill.

Some flare in the head lamps is normal, as a fully charged battery will show a voltage of 6 just after the starter has been used, and a voltage of 7.5 as soon as the generator begins to send charging current to it. If the bulbs do not burn out, you probably have merely a normal condition. If the bulbs burn out frequently, it may be that you have a high resistance at some connection between the generator and battery. This is difficult to locate without a voltmeter. If a voltmeter is available, you can take readings from the frame of the car to various points on the generator to battery circuit while the engine is running and the generator is charging 10 or 12 amperes. For example, if at one side of the ammeter you found a voltage of 7.3 and at the other side a voltage of 8, it would show a poor connection in the meter, which would result in excessive voltage at the lamps.



Points at which to make voltage tests to run down cause of heating



# Motor Age's Flat Rate Forum

EDITED BY B. M. IKERT

## Influence of Flat Rate Seen in Equipment Show

IN looking over the displays and especially the shop equipment at the seventh annual A. E. A. show which was held in Chicago last week, we are smitten by developments that have taken place in automotive shop machinery and fitments to further the cause of flat rate.

Talk with most any maker of equipment today and he will tell you that with his line of wrenches, hoist, tire changing machine, brake lining machine, valve refacing machine and so on, that the work can be done in very much less time than with the old hand methods.

What's the reason? Flat rate, to be sure.

Makers of equipment have studied the flat rate schedules of the car manufacturers and have brought out new or revamped old equipment to make it entirely possible for the shop to come under the wire on these schedules on time, or even less time.

We must remember that most flat rates are based, not upon the time it takes a cracker-jack mechanic to do the work, but the time the average man requires for the operation. A skilled man almost always comes under the wire in less time (although we admit there are some time schedules given out by makers of flat rate that cause many a man to go without lunch to break even) and a fairly handy man with the right equipment is sure to beat even the efforts of the highly skilled man without equipment.

Lately, many shops have gone into specialized forms of service, such as brake lining work, engine overhaul, electrical work and battery work, painting and top work, and so on. Those who



### THINGS THAT HELP FLAT RATE

*A well placed service entrance encourages car owners to frequent the service station to take advantage of flat rate system of repairs. It is not always possible to have the service entrance on a main or side street, but this should always be done where possible*

do this almost always install equipment that cuts down the time factor. And so, at the show mentioned above, we saw many new machines and shop furniture that make it possible to do a certain job better and do it in less time.

Not only that but these makers of equipment have sensed the need for apparatus that disregards the human element. No two men read a micrometer alike, for example and when you leave something to the discretion of a mechanic who may not do the same thing in the same way from one day to another you are getting into trouble.

That's why we see gages and templates that accurately set cutting tools, position reamers or whatever the case might be, so little is left for the mechanic to do but press the button and set the machine going.

Then, while the machine is in operation the mechanic can go to work on some other job and thus the shop production, the number of jobs, is materially increased. A manufacturer recently told us that in some shops wherein his machines have been placed the shops were able to profit nearly \$30 per day on that machine alone.

### See Flat Rate Manual

Aberdeen, S. D.

To the Editor of MOTOR AGE:

Kindly advise us what data you have available on flat rate prices for general garage work. We are very much interested in this important subject and will appreciate any information and suggestions you may have to offer.

**SOUTH DAKOTA STATE AUTO TRACTOR AND ELECTRICAL SCHOOL.**

See MOTOR AGE's Flat Rate Manual which covers service operations on practically all makes of American cars. It was published in the April 30, 1925, issue but is sold separately for 50 cents.

### Importance of Good Accounting

As it now stands there are a great many men engaged in the servicing and repairing of automobiles who primarily are mechanics and who as a class know little or nothing about accounting. In fact many of them dislike bookkeeping and accounting so much that they would rather go broke than give the proper thought and time towards the establishment of records to show their costs of doing business. Without such records a shop will go broke and because for one thing labor almost invariably will be sold at a loss in such a shop.

Automobile repairing never will be a business of good credit standing until bookkeeping and accounting will be given as much or more attention than equipment and men.

## MOTOR AGE'S FLAT RATE FORUM

No. 40

### FLAT RATES FOR BUICK BODY OPERATIONS

Manufacturer's  
Official  
Designation

	Charge
1 Body Bolts—Tighten all.....	\$1.45
2 Bumper—Install one door bumper.....	.50
3 Bumpers—Adjust all door bumpers.....	.75
4 Doors—Tighten all hinge, lock and check strap screws.....	.95
5 Door Handle—Install one.....	.60
	open models
	closed models
6 Door Hinge—Install one.....	.75
	open models
	closed models
7 Hood Laces—Install new.....	1.20
	one side
	both sides
	both sides double
8 Lock—Door—Free up all.....	.50
9 Lock—Door—Install new.....	.50
	open models
	closed models
10 Rattles—Remove all from body and hood. (Operations 1, 3, 4, 7 and 11 in combination).....	4.80
11 Windshield—Tighten windshield post nuts and top anchor screws.....	.60

# EDITORIAL

## Parts Must Be Recognized

LONG ago Henry Ford recognized the commercial importance of the automotive replacement parts business. He lost no time working out a plan whereby this business, as related to the cars and trucks he manufactured, would bring profit to both himself and to his dealers. The plan worked. Many a car manufacturer today would be glad to do a volume of business in motor vehicles equal to the volume of Mr. Ford's parts business.

The vital factor in the Ford parts plan was that it made it easy for the car owner to get parts for his vehicle no matter where he might be. He didn't have to hunt up an authorized Ford dealer to buy genuine Ford parts, and yet in every sale of Ford parts a dealer made a profit.

Owing to the growth of the reconditioning and rebuilding business, both for the car owner and for the promotion of used car sales, there has grown up a strong demand for parts for practically all makes of cars. In very few cases are the manufacturer's parts obtainable as in the case of Ford, but enterprising manufacturers have made available to the trade and the public full lines of dependable parts for practically every make of motor vehicle. And in consequence there has grown up a tremendous business in the distribution of standardized and trade-marked replacement parts for motor vehicles.

The magnitude of this business was revealed in Chicago this week when the first exhibition of the National Standard Parts Association was held at the Hotel Sherman. The parts business is no insignificant factor in the automotive equipment field.

*Preventive service is more profitable than extensive repairing.*

## Show 'Em and Sell 'Em

THE new merchandising campaign planned by the Automotive Equipment Association has for its slogan "Show 'Em and Sell 'Em." At the same time the A. E. A. merchandisers will continue to "Ask 'Em to Buy." As we have frequently pointed out in these columns one of the most effective ways of asking people to buy merchandise is to show them the goods. And the voice with the strongest appeal is the price tag. No matter how good nor how beautiful merchandise may be the average consumer does not formulate a positive desire to possess it until he knows what it will cost.

The most successful accessory merchants give the widest possible display to their goods. Their sales increase in proportion to the number of items that are exhibited where customers can see and examine them.

An automotive merchant who makes a success of Christmas selling told in last week's MOTOR AGE how he put tables in his store and filled them with articles in various price groups. Many items that he had considered slow moving were snapped up. He found his turn over was speeded up. It paid him to show his merchandise with prices plainly marked. It was his most effective way of asking people to buy.

There are some classes of automotive merchandise, however, that must have more than a casual showing in order to win over prospective buyers. Cars must be demonstrated. But a real demonstration and not merely a trip around the block with the salesman or the dealer's driver at the wheel is the better way to show 'em and sell 'em. A dealer selling one of the most expensive cars advertises a 100-mile demonstration trip for prospective buyers over any route the customer selects. Another successful dealer selling a popular priced car invites prospective buyers to take a car out alone and drive any way they want to. "If you drive it you will want it," he says, and his sales records seem to prove the case.

If you show your merchandise in the right way you surely are asking them to buy.

*Now for the two-car family and then before you know it every other person will be rolling his own.*

## Lower Prices Coming

THERE is excellent prospect of a general price reduction affecting all kinds of automotive merchandise. It comes from the decision of the Ways and Means Committee of the House of Representatives to recommend repeal of the tax on trucks, parts, tires and accessories, and reduction of the tax on passenger cars from 5 to 3 per cent. These tax savings, if they become effective, will enable automotive merchandise to be sold to the public at lower prices without in any way impairing the profits of the trade.

The automotive industry has felt that it is entitled to complete elimination of the war taxes on its products. But since the passenger car has been the largest producer of revenue under the excise tax it appears that the Ways and Means Committee could not quite agree to give up so generous a contributor. It might have been done by making income tax reductions smaller, but it seems that income tax payers, who are much fewer than automobile owners, make a louder noise.

At any rate there is definite prospect of automotive tax reduction and there is still the possibility that on the floor of Congress the complete abolition of these taxes will be accomplished.

# Car Producers Begin to Retrench

## Although Sales Show Decline No Sign of Danger Is Seen

### Most Dealers Enter November With No Stocks and Christmas Cam- paigns Promise Boost

PHILADELPHIA, Nov. 18.—New car sales have shown a marked drop during the last two weeks. Production has not shown a corresponding decline, but as a general condition retrenchment is the rule at the factories. The slowing-up of output after such a period of record-breaking activity as marked the entire month of October would naturally be expected to take some little time. The current surplus of product over sales to consumers cannot be considered a danger sign, as most of the dealers in the leading lines went into November with virtually no stocks on hand.

The prospects of Federal tax reductions on automotive products are having an effect on the production plans of the manufacturers. If the House Ways and Means Committee had decided to eliminate the levies entirely, the producers would be preparing for a somewhat higher level of business next year than is now the case. But even so, the saving to automotive buyers of about \$70,000,000 a year, as provided in the bill in its present form, should prove a good stimulant to sales.

Lower taxes are not the only sign of good automobile business ahead. The generally high level of business activity in the country and the constantly expanding volume of foreign sales combine to promise a continuation of the prosperity in the automobile industry at least during the first half of 1926. But the automobile producers have seen slumps develop suddenly and unaccountably before, and they will not be unprepared if the unexpected happens.

It is regarded as fairly certain that December will be a month of rather low activity, especially in sales of new cars. This condition has now become a familiar yearly action, but efforts are being made to bring automobile selling during the holiday season more into line with the brisk business done in other retail lines.

### TUDOR NAMED RECEIVER

KOKOMO, Ind., Nov. 14.—Robert L. Tudor, of this city, has been appointed receiver for the Pioneer Automobile Co., the holding organization which owns the real estate and plants of the old Apperson Brothers Automobile Co., following the filing of a suit in Howard county circuit court by the National Lead Co. petitioning such action. The Apperson Automobile Co., which leased the plants in July, 1924, when it was formed by the Don C. McCord-Rothchild interests, is not affected by the action.

**ERWIN LEAVES PARAFLECTOR**  
MINNEAPOLIS, Minn., Nov. 14.—W. B. Erwin has resigned as vice-president and director of the Paraflector Company. His resignation is effective December 15 and he plans to remain in the automotive industry.

## First National Motorbus Show Opens in Detroit

DETROIT, Nov. 14.—The first motor bus show to be held by bus and accessories manufacturers opened this evening at Convention Hall under the title of the First National Motor Bus Show. At the originating of the show less than six weeks ago, it was planned to make it an annual event. The opening tonight, and the enthusiasm with which it was marked makes it an assured event.

Some of the more important manufacturers who are exhibiting are the Yellow Coach and Manufacturing Company, Graham Brothers, The Fageol Company, the Six Wheel Company, Commerce Motor Truck Co., Denby Motor Truck Company, Ruggles Motor Truck Company, Chevrolet Motor Company, Gotfredson Corporation, Reo Motor Car Co., The Studebaker Corporation, American National Omnibus Co., and Dorris Motors, Inc.

## A. M. A. Holds Annual Dinner During A. E. A. Show Week

CHICAGO, Nov. 14.—The annual dinner of the Automotive Manufacturers' Association at the Auditorium Hotel Tuesday evening was one of the most largely attended dinners of A. E. A. convention week. About 400 members and guests of the A. M. A. were present.

Addresses were made by G. F. Disher, president of the association; Arthur Heath Onthank, chief of the domestic commerce division of the Bureau of Foreign and Domestic Commerce, and Pat Barnes, soldier of fortune and radio announcer.

Mr. Disher pointed out some means by which he believed the cost of distributing merchandise could be reduced. He said the manufacturers of automotive products have attained as great efficiency as the manufacturers in any other lines, but that the cost of distribution is abnormally high. He recommended that retail dealers buy stocks more often and in less quantity in order to keep down the investment in inventory. He also recommended that the buyer for the automotive wholesaler be in close touch with the sales department.

Mr. Onthank described surveys which the Department of Commerce has made in various sections of the country to determine buying habits and power of the people. He told how these surveys may be used profitably by the automotive manufacturers.

## National Standard Parts Meeting and Show Opens

### More Than Ninety Exhibitors Have Booths at Chicago Exhibit— 1926 Course Planned

CHICAGO, Nov. 16.—The National Standard Parts Association today opened a convention and exhibit at Hotel Sherman which will continue through Wednesday. Delegates arrived early to register and indications point to a very interesting meeting and show. About 136 delegates are expected to have reported before the sessions close. Ninety-four exhibitors have booths in the show which is being staged on the mezzanine floor of the hotel. It is said that a large number of applications for exhibition space were rejected, all of these, of course, being non-members.

According to those close to the association's activities the thread of discussion in the convention will largely involve the future status of the parts jobber. How to put the parts jobber on a sound business basis will be the big thought. Approach to this problem was made by the association's merchandising committee by means of survey and study.

The exhibitors in the show are as follows:

Accurate Gear Co., Springfield, Ohio.  
American Hammered Piston Ring Co., Baltimore, Md.  
American Steel Export Co., New York City.  
Automotive Gear Works, Inc., Richmond, Ind.  
Bock Bearing Co., Toledo, Ohio.  
Brodie Company, Ralph N., Chicago, Ill.  
Buckeye Brass & Mfg. Co., Cleveland, Ohio.  
Burd High Compression Ring Co., Rockford, Ill.  
Burgess-Norton Mfg. Co., Geneva, Ill.  
Cleveland Inner Ring Co., Cleveland, Ohio.  
Cleveland Piston & Mfg. Co., Cleveland, Ohio.  
Dall Motor Parts Co., Cleveland, Ohio.  
Dalton & Balch, Inc., Cleveland, Ohio.  
Detroit Steel Products Co., Detroit, Mich.  
Elgin Machine Works, Elgin, Ill.  
Fafnir Bearing Co., New Britain, Conn.  
Federal Mogul Corp., Detroit, Mich.  
Felt Products Mfg. Co., Chicago, Ill.  
Fosteria Screw Co., Fostoria, Ohio.  
G H Mfg. Co., Baltimore, Md.  
G-H Tension Ring Co., Inc., Baltimore, Md.  
Gill Mfg. Co., Chicago, Ill.  
Hide Leather & Belting Co., Indianapolis, Ind.  
Houpt Machine Co., Long Island City, N. Y.  
Indianapolis Tool & Mfg. Co., Indianapolis, Ind.  
W. H. Johns, Inc., Los Angeles, Cal.  
James Motor Valve Co., Detroit, Mich.  
Johnson Bronze Co., New Castle, Penn.  
Kalamazoo Loose Leaf Binder Co., Kalamazoo, Mich.  
Kant-Skore Piston Co., Cincinnati, Ohio.  
Keasbey & Mattison Co., Ambler, Pa.  
King Quality Products, Inc., Buffalo, N. Y.  
Lake Erie Metal Products Co., Bedford, Ohio.  
Mackay & Austin, Inc., Oakland, Cal.  
Mallory Electric Corp., Toledo, Ohio.  
Milwaukee Die Casting Co., Milwaukee, Wis.  
National Bushing & Parts Co., Inc., Minneapolis, Minn.  
New England Auto Products Co., New Haven, Conn.  
Ohio Piston Co., Cleveland, Ohio.  
Orange Bearing Co., Orange, N. J.  
Packer Auto Specialty Co., Chicago, Ill.  
Parts Mfg. Co., Cleveland, Ohio.  
Penn Rivet Corp., Philadelphia, Pa.  
Pennsylvania Piston Ring Co., Cleveland, Ohio.  
Republic Gear Co., Detroit, Mich.  
Scully Steel & Iron Co., Chicago, Ill.  
Smalley Accessories Corp., Chicago, Ill.  
Society of Automotive Eng., Inc., New York, N. Y.  
Spencer-Smith Machine Co., Howell, Mich.  
Staff, J. Wadsworth, Saginaw, Mich.  
Standard Sales & Service Co., Plainville, Conn.  
Star Products & Machine Co., Cleveland, Ohio.  
Swartz Mfg. Co., Freeport, Ill.  
Thompson Products, Inc., Cleveland, Ohio.  
Timing Gears Corp., Chicago, Ill.  
Twentieth Century Brass Works, Minneapolis, Minn.  
United States Asbestos Co., New York, N. Y.  
United States Chain & Forg. Co., Pittsburgh, Pa.  
Universal Drive Shaft Co., Cleveland, Ohio.  
U. S. Bearing Co., Indianapolis, Ind.  
Van Norman Machine Tool Co., Springfield, Mass.  
Warner Gear Co., Muncie, Ind.  
Wel-Ever Piston Ring Co., Toledo, Ohio.  
Western Gear Co., Detroit, Mich.  
Whitney Mfg. Co., Hartford, Conn.

# A. E. A. Votes to Expand Its Activities

## Show Declared Best Ever Held From Business View

### More Orders, Better Contacts, and Finer Displays Are Features of Seventh Exhibition

CHICAGO, Nov. 14.—From a business standpoint the seventh annual show of the Automotive Equipment Association, which ended here today, was the greatest the association ever has held.

Manufacturers, particularly those who exhibited new or improved products, reported at the close of the exhibition that they had taken more orders than ever before at a like occasion.

More contacts were made, more inquiries received and more interest was shown on the part of the jobbers present than ever before in the history of the association.

One prominent manufacturer, who introduced a new product, reported that he had added more than 100 wholesale dis-

## Heard at and About The A. E. A. Show

The Bonney Forge and Tool Works of Allentown, Pa., held a special meeting of salesmen and a sales conference all day Nov. 8 in Chicago, the day before the A. E. A. show. All sales representatives with the exception of the export department were present at the session, at which it was announced that the system of listing Bonney products has been changed. The company now lists direct to the retailer.

\* \* \*

Roland S. Boreham of Los Angeles has been appointed wholesale representative in the coast territory for the Ernest Holmes Co., Chattanooga, Tenn., manufacturers of wreckers and shop equipment. B. H. Dirks will travel the wholesale territory surrounding Salt Lake City for the Holmes company, it was announced. The Holmes concern has more than trebled its floor space in the last year to meet growing demand for its products.

\* \* \*

R. W. Jones is leaving Frank Mossberg Co. after sixteen years of association with that firm, to become assistant salesmanager in the western sales district for the American Wire Fabrics Corp., with headquarters at Chicago.

\* \* \*

Van Cleef Bros., Chicago, celebrated the close of the "Home-Coming Sales Contest" among field representatives of the company, with a dinner during the A. E. A. show.

\* \* \*

Two general sales sessions were held Nov. 9 and 10 at the Hamilton Club by district and overseas representatives of Walden-Worcester, Inc., of Worcester, Mass.

\* \* \*

The Gates Rubber Co. Denver, held its annual sales conference and banquet Saturday at the Hotel LaSalle.

\* \* \*

The Cincinnati Victrol Co., Cincinnati, held a sales dinner at the University Club Wednesday evening.

\* \* \*

Fred Cole has been added to the directorate of the Romort Mfg. Co., Oakfield, Wis., succeeding Will Zinke.

\* \* \*

The Kales Stamping Co. of Detroit, held its annual sales organization dinner Nov. 9 at the Congress Hotel.

\* \* \*

The Manley Manufacturing Co. announces a reduction in price on the Manley Wrecking Crane No. 101, from \$118 to \$100. The No. 101 is a 2½ ton size.

\* \* \*

All the field service men of the Lyon Metallic Manufacturing Co., Aurora, Ill., were called in from their territories to

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## Merchandising Program Is to Extend Throughout U. S.

### Convention Also Votes to Merge With M. & A. M. A. if Latter Approves—Ozburn New President

CHICAGO, Nov. 14.—Renewal and expansion of the merchandising program of the A. E. A., which made the slogan "Ask 'Em to Buy" famous three years ago, was decided upon by the Automotive Equipment Association at its tenth annual convention here this week. The old slogan will be revived and a new one, "Show 'Em and Sell 'Em," will be used in promoting the campaign.

The association appropriated \$50,000 for this work and authorized the merchandising department to employ two capable field men to assist in carrying the merchandising plan to all sections of the country.

This action was taken following a report read by Arthur R. Mogge, mer-



N. F. Ozburn, new president, A. E. A.

chandising director, outlining the plan to organize meetings of jobbers and their salesmen and dealers in all parts of the country to promote the better merchandising of accessories, equipment, service parts, and service. This plan was tried out early this month in New York state when a group of jobbers held three meetings at which speakers told them how to keep their places and dealers' places busy this winter. These jobbers were enthusiastic about the plan and declared it had already brought profitable results.

L. A. Safford, chairman of the merchandising committee during the past year, presided at the merchandising session and urged all members to support this campaign. W. T. Morris, retiring



E. V. Hennecke, new vice-president of A. E. A.

tributors during the show, and that orders had been taken that would insure top production for the next six months.

A large amount of order taking was done, although ordinarily the A. E. A. show is more of a meeting place where lines may be shown and lasting contacts begun, than it is an order receiving department.

Nearly every manufacturer who exhibited declared that more actual business was written in the first day of the display, than had been done during the

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president of the A. E. A., was selected as new chairman of the merchandising committee.

Another outstanding action of the convention was the voting of authority to the board of directors to consummate the proposed merger with the Motor and Accessory Manufacturers' Association provided the latter association approves the merger at its annual meeting in January. Thus there is presented the possibility of the two associations becoming one before the next annual convention and show are held. This action was unanimous.

It was decided to hold the convention and show next year at the Coliseum in Chicago the week of Nov. 8 to 15. There was some sentiment in favor of changing to a later date, but the majority preferred the early part of November. By vote of the convention, attendance at the show next year will be more restricted than for the last two years. It will be open only to members and invited guests, as this year, but invitations will be extended to jobbers only if they show enough interest to file applications not later than 30 days before the show opens.

The new president of the association, elected at the annual convention here this week, is N. F. Ozburn of Ozburn Abston & Co., automotive jobbers, Memphis, Tenn. The new vice-president is Earl V. Hennecke of the Moto-Meter Co., manufacturers, Long Island City, N. Y. The retiring president is W. T. Morris, of the American Chain Co., Bridgeport, Conn. Mr. Ozburn steps up from the vice-presidency of the association.

New directors were elected as follows:

District 1—Three year term: George W. Fleming, Fleming Machine Co., Worcester, Mass.; two year term: Charles S. Owen, Chapin-Owen Co., Rochester, N. Y.; one year term: R. P. Greene, Wetmore-Savage Auto Equipment Co., Boston, Mass.

District 2—Three year term: R. W. Shreiner, General Auto Supply Co., Harrisburg, Pa.

District 3—Three year term: D. S. Brislin, Columbus-McKinnon Chain Co., Columbus, O.; two year term: B. N. McGregor, Packard Electric Co., Warren, O.

District 4—No election.

District 5—Three year term: F. H. Suter, Shadbolt & Boyd Iron Co., Milwaukee, Wis.

District 6—Three year term, F. J. Tenk, Tenk Hardware Co., Quincy, Ill.; one year term: H. E. Patterson, Warner-Patterson Co., Chicago.

District 7—No election.

District 8—Two year term: H. J. Banta, The Banta Co., Los Angeles, Cal.

District 9—One year term: W. P. Kearney, Dominion Chain Co., Niagara Falls, Ont.

New officers of the association were installed at the Saturday morning session, which was the concluding session of the convention.

The total number of exhibitors at the show was 225 and 212 of these were manufacturers of automotive equipment.

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attend the A. E. A. show in Chicago. A sales conference was held in Aurora previous to the opening of the show and on the day of the show opening all automotive jobbers handling Lyon products were taken by automobile to Aurora where they inspected the Lyon plant, were served with dinner, and returned that evening to Chicago.

The Cuno Engineering Corp., Meriden, Conn., manufacturers of the "Electric Match" and other smoking equipment for automobiles announced at the A. E. A. show that a new factory building has been completed to increase the facilities of the plant.

Romort Mfg. Co., Oakfield, Wis., announced at the show a discount of 40 per cent to jobbers on their air tower, in place of the 30 per cent formerly prevailing.

Burgess-Norton Mfg. Co., Geneva, Ill., hereafter will mark all their piston pins with the size and stock number.

A dinner for distributors was held Tuesday evening by the Champion Spark Plug Co. of Toledo.

James Motor Valve Co. of Detroit, gave a dinner to representatives Wednesday evening.

An interesting entertainment was provided daily at the Illinois Athletic Club for the wives of distributors by the Lincoln Products Co., Chicago. Luncheon and bridge was the program.

Announcement was made by President C. M. Burgess of the Burgess-Norton Mfg. Co., Geneva, Ill., of the resignation of R. E. Espey as secretary and sales manager of the company and the appointment of F. E. Burgess as secretary. Mr. Burgess formerly was assistant treasurer of the company and will continue to discharge the duties of that office also.

The Indiana Piston Ring Co. has purchased the plant of the old Testor-Hartley Motor Corp. of Hagertown, Ind., and is remodeling it to form an addition to its own factory. The new plant is expected to be in full operation by Dec. 1, when it is hoped that the daily capacity will be about 100,000 Perfect Circle piston rings.

Automobile factory service managers and a number of other guests were entertained at dinner Wednesday evening of A. E. A. convention week by E. H. Spears, sales manager of David Lupton's Sons Co. of Detroit. Following the dinner a round table discussion was held on problems of servicing motor vehicles and the distribution of parts and supplies. Talks were made by all the service managers present, two representative jobbers, two manufacturers of shop equipment and three representatives of automotive business papers.

A. D. Geiger has been made manager

of the Boston branch of the Black & Decker Manufacturing Co., succeeding Dan G. Caywood.

P. M. Southworth has returned to "X" Laboratories, Inc., as advertising manager. He formerly occupied the same position with the Nestles Food Co.

The Canadian Auxiliary of the A. E. A. held a banquet Wednesday evening at the Chicago Athletic Association, at which W. P. Karney, vice president of the Dominion Chain Co., Niagara Falls, Ont., acted as toastmaster. About 25 jobbers were present and discussed problems for next year.

The Apco Manufacturing Co. of Providence, R. I., held its annual dinner and sales conference, the Sunday before the show opened, at the Congress Hotel.

The Rees Manufacturing Co. of Pittsburgh held a dinner for salesmen at the Congress Hotel Monday evening.

President C. M. Burgess of the Burgess-Norton Mfg. Co., Geneva, Ill., announced at the show the inauguration of a parts insurance plan whereby the company guarantees each B-N piston pin to be within .0002 plus or minus for diameter, 1/64 in. for length, and not more than .0002 out of round and with no taper. Hardness is guaranteed to be correct and the pin to be satisfactory in every way to the purchaser. If not it can be returned at the company's expense for exchange. A certificate is issued by the shop in which the pin is installed. The plan provides for compensation for damage incurred on account of a broken B-N pin installed by a competent mechanic, if the pin contained a flaw, providing the pin has not been altered in any way after leaving the factory. This plan was designed especially to appeal to those who demand only genuine parts.

Bert Close, for a number of years president of the firm of Berry & Close, Philadelphia, manufacturers' agents, has been made sales manager of King Quality Products, Inc., Buffalo, N. Y. Frank Berry will continue the business of Berry & Close with the same lines.

## Automotive Division Gives Another Expert to Dodge

WASHINGTON, Nov. 14.—Homer E. Elder, statistical expert of the Automotive Division, U. S. Department of Commerce, has resigned that position to head the research department of foreign sales for the Dodge Brothers Motor Company, with headquarters in Detroit. Mr. Elder's successor in the department has not as yet been appointed.

The acquisition of Mr. Elder's services, marks the second official Dodge Brothers has taken from the department within the last six weeks, the first being Percy Owen, formerly chief of the automotive division who has been made director of foreign sales of Dodge Brothers.

## Thompson Now Developing Carbon Monoxide Consumer

Device Also to Be Utilized as Automobile and Bus Heating Apparatus, Designers Say

CHICAGO, Nov. 14.—A carbon monoxide consumer, which can be utilized as a car or bus heater, is being developed and is said to be near perfection by the Thompson Research, Inc., Cleveland, O. Although the device is not in production as yet, and the company is unable to say when it will be, it has been tested on various cars at the laboratories, has been inspected by the Cleveland city engineer, and is declared to have been found very effective.

As is so often the case in chemical research, the product desired is secondary in importance to the by-product from the developed reactions.

The corporation began the development work with the intention of providing a carbon monoxide consumer for automobiles. The bureaus of health in various cities have found that life is being shortened by the inhaling of monoxide coming from automobile exhausts and lying close to the pedestrian level of the larger cities. It is reported that the city of Paris is to enforce the use of a recent French invention which prevents this condition.

Instead of developing a device to absorb the monoxide, which, by its nature, would require replacement of the absorbent substance at intervals, the Thompson laboratories studied the possibilities of burning the noxious gas, that is, convert it into carbon dioxide, a harmless vapor.

It was found, however, that by the time the exhaust gases reached the muffler their heat had so decreased, that the monoxide would not burn except under compression. Compression was out of the question because it would retard the power of the engine.

After prolonged tests, it was found that a certain catalytic agent would raise the temperature of the mixture of monoxide and air to a heat of sufficient intensity to allow explosion by an electric spark.

As soon as this was discovered, it was found that great heat was generated by the burning of the monoxide since it had no explosive power. The idea then was conceived, that the air used to cool the device might be pumped into the bus for heating purposes. This would obviate the escape of exhaust gases in the car interior.

A possible development of the principle, which the company has not lost sight of, is that the heat developed by the consumer might be used in large plants, for the formation of additional steam power, or the heating of factory buildings.

The apparatus is built to take the place of the ordinary car or bus muffler. It is to be compact in size and will have much the same appearance as the muffler.

## Selling Cars Too Slow For Him

OGDEN, Utah, Nov. 14.—Hartbertson Brothers, automobile dealers of this city, are recovering from a shock. About six months ago they engaged James H. Carlson, 40 years of age and married with one or two children, to serve as a salesman. Carlson did well and was making many friends in the city when he suddenly left for parts unknown taking with him a Nash car belonging to the firm and about \$2,000 in money and property obtained by means of forged checks, the victims being his employers, merchants and bankers of Ogden. The man is said to have a police record. He is believed to have acted as an automobile salesman in California and Detroit. He is of dark complexion, with dark hair though nearly bald and weighs nearly 200 pounds. His height is about 5 feet 10 inches. The serial number on his car, a 1920 model, is 136223, and the engine number is 219512. Police have started a wide search for the man.

Attached to the end of the exhaust pipe, is an expansion chamber, in which the carbon monoxide is mixed with inflowing air, regulated to the proper proportions by aerators in the front of the expansion chamber. The expansion chamber further serves the purpose of preventing compression of the mixture, which would decrease the engine's power.

From the expansion chamber, the mixed gas is nozzled down and passed into a cylinder which is drilled with tiny holes. Surrounding the inner cylinder is the catalyst, and extending into the firing chamber which surrounds the whole, is a spark plug, fired from the distributor and thus synchronized with the engine.

The carbon dioxide then passes out as exhaust.

Surrounding the combustion chamber is an air jacket, into which the air passes through venturi tubes, and after circulating through the jacket, is piped into the bus interior.

## SPACE DEMAND HEAVY

CLEVELAND, O., Nov. 14.—The demand for truck space in the Cleveland automobile show, January 23 to 30, is far in excess of the space available, it was announced today by the exposition management. It was pointed out, however, that arrangements for allotting additional space for commercial cars are under way. Drawing this week for passenger car space revealed a condition similar to the condition faced by the commercial car exhibitors. From every viewpoint, this year's show is going to be the biggest, by far, in the Fifth City's history.

## Chrysler Insurance Plan Upheld in Federal Court

New York District Judge Enjoins State Superintendent from Revoking License

NEW YORK, Nov. 14.—The petition of the Palmetto Fire Insurance Co. for an injunction to restrain James A. Beha, state superintendent of insurance, from revoking the company's license in New York, was granted in a decision by Judge Rogers in the United States District Court this week. The petition had been filed after Beha had indicated that he would revoke the license on the ground that the Chrysler-Palmetto automobile insurance plan constituted a violation of the laws and public policy of the State of New York.

The court overruled Beha's contention that this was a suit against the state and could not be maintained in federal court without the state's consent. The court held that while the state had power to exclude a foreign insurance company from doing business within its limits or to impose on it conditions deemed proper as precedent to its right to do such business the state could not forbid contracts of insurance relating to risks within its limits from being made between a citizen and a corporation in another state since such an attempt would violate the citizen's liberty to contract under the Fourteenth Amendment to the Constitution.

Whether Chrysler-Palmetto insurance contracts made under the Michigan laws were valid in New York was not regarded by the court as within its purview, but merely whether the license of the Palmetto, if its business does not violate New York laws, can be revoked because of the manner in which it does business in a third state where that business is valid.

The Court held that the Ohio decision refusing to enjoin the state insurance commissioner there from revoking Palmetto's license hinged upon the Ohio resident agent law and New York has no such law. The Court held also that in making its contract with the Chrysler Corp. in Michigan and in acting under that contract Palmetto was not doing business in New York and that "where applications for insurance are obtained in a state by an agent of a foreign company and forwarded by him for acceptance or rejection to a company outside the state the company is not doing business in the state wherein the applicants reside."

## WITHERS JOINS INDIA

AKRON, Nov. 14.—W. C. Withers has just joined the sales force of the New York branch of the India Tire & Rubber Company. Withers will cover the metropolitan territory. He has been in the tire selling field for 12 years. He formerly did special sales work for Goodrich out of New York and has represented Republic in and around New York City.

## Exhibitors Now Plan Booth Decoration for Big Shows

### Space Details Arranged, Arrangements Can Be Made as to Display Methods

NEW YORK, Nov. 14.—With space drawings out of the way and the dimension and shape of spaces available to each individual exhibitor, the decks have been cleared for action in final preparation for the National Automobile Shows in New York and Chicago, with which the New Year will be ushered in. For the cars and taxicabs only one such function was necessitated, but in the case of the accessory manufacturers, a supplemental drawing was held, disposing of the final remaining spaces.

The official figures show that 50 makes of passenger cars will be on display in Grand Central Palace, New York, during the week of January 9 to 16, and one less at the Coliseum in Chicago, January 30 to February 6. In addition, eight makes of taxicabs will be on exhibition at each show.

The accessory division of the New York show, as it now stands, will have on display the products of 156 accessory and parts manufacturers. In the same lines the Chicago exhibition will have a total of 117. These totals may be increased later if additional space can be provided.

With the single exception of the Du Pont Motors, listed only at New York, the same car makers will occupy spaces at both the national shows. This is not the case with the accessory exhibits, the divergence between the two lists being considerable.

With exact details of the spaces available, the car makers are now in a position to decide how many models may be displayed to advantage, and the accessory men to formulate plans for decoration of their booths. The general decorative scheme has not been disclosed for either show, but it is understood that most elaborate plans are being worked out.

The National Automobile Chamber of Commerce, sponsoring both the New York and Chicago shows, will pay particular attention to the trade periods at the coming shows. With the realization that much of the buying for next year's production will be completed at the two displays, exhibitors will be urged to have their displays as complete as possible by 10 o'clock on the Monday morning of each show. The trade periods will be from 10 a. m. to 1 p. m. on each Monday and Tuesday, during which hours the factory representatives, distributors and dealers will be at liberty to inspect everything and talk business without interruption.

### NEW VELIE DEALERS

MOLINE, Ill., Nov. 14.—New dealers added to the organization of the Velie Motors Corp. include:

G. J. McMaster, Lanesboro, Minn., Gil-

bon Garage, Peekskill, N. Y., John H. Dennis, Albany, N. Y., Hester Motor Service, Henerson, N. C., Fred Cornall, Carbondale, Pa., Difley Motor Company, Everett, Wash., Gregory Garage, Johnson City, N. Y., Minor Motor Company, De Witt, Ia., Rockwell's Garage, Elmira, N. Y., H. R. Eby, Shannon, Ill., L. H. & R. L. Robinson, Winters, Cal., A. P. D'Artenay, Dixon, Cal., Sorenson & Clariborne, No. Sacramento, Cal., Rutherford Bros., Oroville, Cal., Benicia Garage, Benicia, Cal.

### FRESNO PLANS CONGRESS

FRESNO, Cal., Nov. 14.—The sales congress of the National Automobile Dealers' Association, which in the past has been held only in San Francisco and Los Angeles, in this state, also will be held in Fresno, November 30, this year. All dealers in the San Joaquin valley, and other territory tributary to Fresno, will attend this meeting and take an active part in it, while other dealers from any and all sections of California are invited as part of the audience.

### TRUCK CO. SALE NOV. 23

SPRINGFIELD, O., Nov. 14.—Interest now centers in the sale and reorganization of The Kelly-Springfield Motor Truck Company at 2 p. m. November 23 at the plant by Receiver Pearl A. Lewis. It is expected that three bids will be submitted, according to reports, although it has been the understanding that an eastern syndicate will probably make the high bid. It is assured that the company will be placed on a sound financial basis and that the plant will be operated with a large force.

## Moon and Diana Dealers See Big Southern Demand

ATLANTA, Nov. 14.—That closed car demand in the Southeast this year gives every indication of establishing the best winter record in the history of the automobile business in this district appeared to be the consensus among the dealers in Georgia, Florida and North and South Carolina, handling the Moon and Diana line, who attended a sales conference in Atlanta held by the southeastern branch of the Moon Motor Car Co.

The immense cotton crop in the South this season, sufficiently large to insure growers one of the biggest financial returns in the history of cotton growing in the South, is resulting in a brisk closed car demand in all parts of the Southeast which bids fair to continue unabated through the coming winter months.

### MACK REPORTS PROFIT

NEW YORK, Nov. 14.—Mack Trucks, Inc., reports net profits of \$2,614,205 for the third quarter of 1925, after charges. After allowing for dividends on first and second preferred stocks of \$284,436, the balance equalled \$6.86 a share on 339,750 shares of common. Total net income for the first nine months of the year, after charges, was \$7,268,052, or \$18.88 per share on the common. Net income for the first nine months of 1924 was \$4,795,938, or \$13.98 a share on the common.

## Cram Sees More Buying and Greater Production in 1926

### Economist Believes Present Owners Will Purchase Higher-Priced Cars Than Formerly

DETROIT, Nov. 14.—As excellent a business year as 1925, if not a better one, is looked for in 1926 by Benjamin H. Cram, nationally known automotive economist. Not only will general business be better, employment as widespread and wages better, Cram declares, but he predicts automobile production and sales will be larger than in this year; more new car owners will appear and better cars will be bought. He adds, however, that used car values will be lower than now and while this will help the used car buyer it will interfere with the man seeking to trade in his old car for a new one.

"With 1925 drawing to a close, after an excellent setting for all things automotive, thought is directed to 1926 and its potentialities," Mr. Cram declares. "Without question it will be an excellent business year, and as such, should carry with it another large volume of automobile buying. Money should be more plentiful than in the present year, and with more confidence in the business structure generally, should be more extensively employed. This means creation of business opportunities, general employment and increased incomes.

"There will be an increased volume of automotive buying, though possibly not a largely increased sale of units. We mean by this there will be an inclination to buy better cars on the part of those ordinarily buying in lower ranges. Manufacturers and dealers in the lower priced lines will probably see many of their present owners ascend into better grades—many more than in the ordinary business year. To compensate for these they must develop and sell a new group of owners—persons formerly without cars. More first buyers will buy in better grades because of improved economic status, but there should be a greater number of first buyers than ever before, the large percentage of whom will be in the lower grades.

"There will be a tendency to quicken the general automotive market through many buyers coming in with cars practically new which they seek to trade on better cars. The result of this will be a general lowering of used car valuations and prices. So many cars of one to three years' use will be offered on the used car market there will be practically no market for the cars older than this."

### COOK TO KANSAS CITY

NEW YORK, Nov. 14.—Colin Campbell vice president of Durant Motors, Inc., announces the appointment of W. S. Cook as sales manager of the Kansas City wholesale office, vice W. I. Nelson, resigned. George Bandy, Jr., was appointed sales manager of the Memphis wholesale office, succeeding Mr. Cook.

## Unusual Color Schemes Are Featured at Annual Salon

### Natural Hues of Birds Used by Designers in Automobile Painting Effects

NEW YORK, Nov. 16.—Birds occupy an important place in the twenty-first annual automobile Salon which opened at Hotel Commodore yesterday and closes on the 23rd. The colors which Nature lavishes upon the feathered songsters have been adapted to motor car bodies and a stuffed bird from whose plumage the new shades have been designed is exhibited with each Lincoln car thus adorned.

Last spring Lincoln obtained from museums 60 stuffed birds distinguished for their beautiful color effects. Heretofore it has been unwritten law that two or multi-colored cars must harmonize. The stuffed birds were studied by experts in an attempt to adapt to car bodies those strongly contrasting colors which Nature paints without disconcerting harmony of effect. Special paints were devised to approximate these clashing effects of colors new to automobiles, and Lincoln at the salon shows a dozen such bodies, the color design of each being after the bird shown with it.

Several other makes of cars are featured by new color designs. They are offered to the people who like to have their cars talked about and the makers anticipate little difficulty in selling such cars even to people already owning the more conventional models.

This Salon is the largest ever held. The 111 cars, each an individual job, occupy all the space on the ballroom floor except the kitchen. The exhibits fill three ballrooms, three private dining rooms, three foyers, the main lobby and two end rooms. This will be a million dollar Salon, since the average price of each car will amount above \$8000.

One feature is a gold-plated Isotta Fraschini eight chassis. To finish this job Capt. Hugo V. D'Annunzio, son of the Italian poet and president of the Isotta Motors Co., importers here, spent 65,000 lire.

The Rolls Royce exhibit is distinguished by four cars whose coach work was done by New England concerns and modelled after the lines originated by Barker of London. Four leading coach builders also exhibit special Rolls bodies. This is said to be the first time that coach designers have been able to equip the Rolls chassis with bodies of their own design. Also there is one Rolls with needle-work upholstery, upon which two and a half million hand stitches were lavished.

The exhibiting carrossiers include Blue Ribbon, Brewster, Brunn, Derham, deCausse, Dietrich, Fisher, Fleetwood, Holbrook, Judkins, Le Baron, Locke, Merrimac, Rollston and Willoughby. The custom bodies of the designers are mounted on nineteen chassis represent-

## Firpo Gets Diana Franchise

ST. LOUIS, Nov. 14.—The company of Luis Angel Firpo, the noted athlete and pugilist contender for the heavyweight championship of the world and now a successful merchandiser of automobiles, has been granted the Moon Diana franchise for Northern Argentine.

It is well known that at the time of his departure from the United States after his famous battle with Jack Dempsey, Firpo's intentions were to devote his time entirely to the promotion of his automobile business, and at that time several manufacturers were anxious to have him take distribution of their cars for his home territory; where he enjoys a tremendous prestige and popularity.

Since that time, Firpo, with a ready supply of capital, has established a strong automobile selling organization with the finest sales room and service equipment in South America, handling a large volume of sales in the Argentine territory.

ing six nations—Amilcar, Brewster, Cadillac, Cunningham, Duesenberg, Franklin, Isotta-Fraschini, Lancia, Lincoln, Locomobile, Marmon, Maybach, Mercedes, Minerva, Packard, Pierce-Arrow, Renault, Rolls-Royce and Wills Sainte Claire.

### CHANDLER ASSISTS PRESIDENT

NEW YORK, Nov. 14.—Henry T. Chandler, who has been associated with the Vanadium Corp. of America since Jan. 1, 1923, as metallurgical engineer at the Detroit headquarters, has been appointed assistant to the president. Prior to his association with this concern he was engaged in research and development work in the automotive field. From 1914 to 1920 he was in charge of the research laboratory of the Ford Motor Co. and for the next three years he was with the C. H. Wills organization as metallurgical engineer. His headquarters continue at Detroit.

### OVERLAND DEALERS MEET

DECOTUR, Ill., Nov. 14.—W. C. Starr was host to 80 dealers and guests at the Orlando hotel recently at a Willys-Overland dealers' banquet. An eight-page booklet was issued to commemorate the evening and a program of music preceded the formal talks. Mr. Starr presided, B. A. McDonald, president of the Commercial Trust company of Chicago, spoke on "Automobile Financing" and T. E. Bennett, wholesale manager for the Starr company told of 1925 results and plans for next year. J. B. Dorris, district manager for Willys-Overland, discussed features of the factory franchise.

## House Committee Votes to Reduce Car War Taxes

### Would Repeal Excise on Truck and Accessories and Cut Levy on Automobiles

WASHINGTON, Nov. 14.—Repeal of the two and one-half per cent tax on trucks, tires, parts and accessories and reduction of the tax on passenger automobiles and motorcycles from 5 per cent to 3 per cent definitely has been decided upon by the House Ways and Means Committee.

The action of the committee will result in a saving to truck users of approximately \$7,800,000 next year and to tire and accessory users will represent a saving of \$22,737,000. As a result of the reduction from 5 to 3 per cent on passenger cars, it will mean a saving of approximately \$40,000,000 to passenger car purchasers.

Under the new schedule the 1926 tax revision will mean roughly a reduction for the automotive industry of about 50 per cent. The automobile taxes of all kinds brought in \$124,686,745 for the fiscal year of 1925, and it was estimated that the 1926 tax would net the government about \$141,000,000. Under the revised schedules this would be cut during 1926 to about \$71,000,000 for the automotive industry's share of excise taxes.

## Florida Dealers Getting Cars from Georgia Town

ATLANTA, Nov. 14.—Two additional destination points for new cars intended for Florida dealers have been chosen as a means of overcoming the freight embargo existing in that state, Valdosta, Ga., and Madison, Fla., the two new points of destination selected. Northern and eastern manufacturers are therefore now consigning their cars intended for the Florida dealer trade to these two points and to Jacksonville and Sanford, Fla., and after unloading at these places the cars are serviced and sent under their own power to dealers in various towns and cities of Florida.

In this manner the freight embargo is being entirely overcome, and dealers in Florida are obtaining their new cars without difficulty.

Business in Florida this season is described as little less than phenomenal so far as new car sales are concerned. It is several hundred per cent better than last season at this time, and certain to establish a record this winter far surpassing any previous winter season in that state. In many instances, dealers advise, purchasers offer bonuses as high as \$500 for immediate delivery of a new car.

### HUDSON-ESSEX OUTPUT

DETROIT, Nov. 14.—October production of Hudson Motor Co. approximated 25,000 cars against 27,000 in September and 27,500 in August.

## Necessity of Trade Interest in National Shows Is Urged

### Sam Miles Leads Discussion as to How Whole Industry Can Realize Exhibits' Importance

NEW YORK, Nov. 14.—The necessity of increasing trade interest in the New York and Chicago national automobile shows was emphasized at a luncheon given by Sam A. Miles, manager of the show department of the N. A. C. C., at the Engineer's Club and attended by representatives of the Motor and Accessory Manufacturers' Association and various automotive trade papers.

Discussion developed that with 1925 promising to be perhaps the largest production year in the industry's history, with motor stocks acting as the bellwether of the bull market on the New York Stock Exchange, and with many recently added models to be displayed at lower prices, interest of the public in these shows was expected to be larger than ever; but it was realized that there must be greater interest in the national shows on the part of the trade itself if the exhibitions were to attain and retain maximum value to the industry.

Various means of attaining this end were considered with special emphasis upon the value of the two trade days at the New York show, Monday and Tuesday. This year these days have been advanced from the latter to the fore part of the week to accommodate factory officials and others who find it difficult to leave their home offices for New York before Saturday or Sunday. But the conviction was expressed that the value of these trade days, even on Monday and Tuesday, would be somewhat discounted if what is called the "hotel headquarters" practice were continued.

It has become the custom among factory representatives and others to make their headquarters at hotels during the show, and for this reason it has often been difficult for dealers to find just the men they wished to talk with.

It is probable that the N. A. C. C. will take some steps to impress upon exhibitors the necessity of attendance at the show itself upon the part of their representatives. The opinion was expressed that at each booth at least one representative qualified to discuss the product technically, as well as a salesman, should be present at all times.

It was regarded as especially necessary that car engineers be present at the booths. At previous shows there has been considerable difficulty in locating representatives who are technicians in contradistinction to salesmen. In this regard the Society of Automotive Engineers will co-operate.

It is probable that at least one special meeting of the Metropolitan Section of the S. A. E. will be held in New York during show week. Efforts will be made, as far in advance as possible, to spread throughout the trade special information

about the show which will emphasize the value of 100 per cent trade attendance, particularly on the Monday and Tuesday trade days.

Although the number of manufacturer exhibitors has decreased this year from 51 to 45, the number of models on display will be about the same as last year.

The importance of focusing the attention of the entire trade on the two national shows is illustrated by the recent action of the N. A. C. C. in declining to participate as an organization in the Philadelphia Sesqui-Centennial celebration. This action was based upon the conviction that the undivided attention of the association should be preserved for every effort toward making the New York and Chicago shows truly national.

The suggestion that exhibitors should refrain from soliciting orders during the show has been abandoned. The questionnaire sent to exhibitors by the N. A. C. C. show department evoked an almost unanimous disapproval of this suggestion as impractical and impossible of enforcement.

The show department is making every effort to emphasize the value of wholehearted trade interest in the two trade days. The suggestion was made that such interest would be encouraged by distributing among the exhibitors and their representatives badges which would classify the branch of the industry in which each individual is concerned. It was also suggested that some plan of registering trade attendance at the show might be worked out, but lack of facilities at both Grand Central Palace and the Coliseum in Chicago discouraged the carrying out of this suggestion.

Mr. Miles solicits from all those interested ideas as to how the vital importance of trade interest in the national shows may be impressed upon the whole industry.

## Dodge Brothers Sets New Mark in Sales and Profit

NEW YORK, Nov. 14.—New high records in the number of cars sold, gross profits, and net income for the first nine months of 1925 are announced by Dodge Bros., Inc.

Net sales were \$175,284,031, against \$155,170,714 in the corresponding period last year, and net income, after depreciation, but before interest on debentures, federal taxes and dividends, was \$25,435,427, as compared with \$14,642,055 in the same period last year.

After all charges, earnings were equal to \$6.33 per share on 2,434,524 shares. Third quarter earnings were \$8,872,115, or \$2.25 per share.

The report shows that the company sold 203,546 cars in the first nine months of this year, exceeding any previous like period since 1914, when the company sold 249,000 cars to Sept. 30. The company has sold 1,430,961 cars for a total price for cars and parts of more than \$1,229,000,000. Loss from debts amounted to only \$33,000.

## Tire Makers See No Reason To Expect Decline in Prices

### Additional Raw Material Release Has Little Effect on Market, Brokers Say

AKRON, O., Nov. 14.—Recent predictions that there would be a reduction in tire prices early in 1926 are not justified by the action of the crude rubber market within the past few weeks, it is pointed out by leading tire manufacturers. If any change takes place it is more likely to be an upward price revision.

Spot rubber has held firm for the last two months around \$1 a pound. The future market also has been exceptionally strong, with heavy buying reported for months in advance. British and Dutch planters are said to have been able to contract for practically all of their 1926 output above 55 cents a pound, if they so desired.

The additional release of 10 per cent more rubber Nov. 1 under the Stevenson restriction act, making the total allowance for export 85 per cent of production, has had practically no effect on the market, Akron brokers state. The release has been counteracted largely by a shortage of labor in the rubber producing countries.

Before the last increase, Sept. 15, prices of tires were based on rubber costing 55 to 60 cents a pound, so that even a big drop in the rubber market would not justify an immediate lowering of tire prices. Rubber for immediate delivery has not been as low as 55 cents since the middle of May, and it went as high as \$1.20 a pound in July.

Even with the series of price increases put into effect this year, manufacturers point out that tires are selling only slightly above the 1923 level. Economies in manufacturing and reduction in overhead have brought about large savings to the motorist.

Contrary to general expectations a revised report of the Department of Commerce, just made public, shows that dealers' average stocks of casings as of Oct. 1 are only slightly larger than a year ago. Inner tube stocks are heavier.

Returns from 35,331 dealers show 2,000,150 casing on hand, or 56.6 per dealer, and 283,552 balloon casings, or 17.5 per dealer, compared with 1,402,879, or 53.6 per dealer, and 135,366 balloon casings, or 16.3 per dealer a year ago.

### 200 HEAR N. A. D. A.

NEW ORLEANS, Nov. 14.—More than 200 automobile distributors, dealers and salesmen gathered in the Roosevelt Hotel in New Orleans, at the meetings of the "sales congress" team of the National Automobile Dealers' Association. The principal speakers were A. R. Kroh, sales specialist of the N. A. D. A., and H. D. Bullock, western sales manager for "System," who was borrowed from the publishing company by the N. A. D. A. for this special group of sales congresses throughout the country.

## Oakland Breaks All Prior Output Marks in October

**Production for Month Is 8,088 Cars and Shipments Total 8,003 During Period**

PONTIAC, Mich., Nov. 14.—The Oakland Motor Car Company broke all previous monthly sales records during October when 8003 cars were shipped to dealers.

As the factory has not yet caught up with dealers' unfilled orders these figures are practically synonymous with retail sales.

The production at the factory was 8088 cars, a single car more than the production quota set for October. The factory sales for October beat the previous high monthly sales record of February 1924 by 14½ per cent. It also was more than 146 per cent greater than the sales in October of last year and represents a 63 per cent increase over September of this year.

The present daily production will be gradually increased through November, December and January, and to this end \$750,000 has been spent in providing the necessary equipment to make possible the expanding Oakland Six production program.

Particularly impressive records of retail sales were made in the large metropolitan cities of the country where competition is keenest. Among the larger cities, where Oakland enjoyed the greatest October retail sales in its history and ranked exceptionally high in new car registration are included Chicago, Detroit, Cleveland, Pittsburgh, Indianapolis, Buffalo, Rochester, Syracuse, Youngstown, Wichita, and St. Louis.

## Two Appointments Made to Distribution Meeting

WASHINGTON, Nov. 14.—The appointment of George A. Waddle, manager of dealers' relations of the Goodyear Tire & Rubber Company, of Akron, and F. B. Caswell, vice-president of the Champion Spark Plug Company, of Toledo, to represent their respective industries at the forthcoming National Distribution Conference, to be held here December 15 and 16, was announced this week by the Chamber of Commerce of the United States.

Representatives of the automotive industry, body builders and allied industries will also be appointed to participate in the conference.

The prime purpose of the chamber in calling the conference, as set forth in the agenda, declares: "As a means of eliminating trade abuses, and the establishment of standards of business practice to counteract business waste, the conference has been called. It is proposed to create a business tribunal to be known as a Joint Trade Relations Committee."

## Ford First Car in Wisconsin

MILWAUKEE, Nov. 14.—Distinction of being the first automobile registered in Wisconsin goes to a Ford, a 10-horse power model, seating four passengers. This and other interesting facts have been brought to light by George A. Brown, chief of the division of records and elections in the office of the secretary of state of Wisconsin, who has been poring over the early records of the industry.

A. F. Zimmerman of Madison possessed the first automobile license issued in the state, the car being the Ford mentioned above. Early records are inaccurate and incomplete because until a few years ago, it was possible for an automobile owner to have the license on one car transferred to another without paying any additional fees. For this reason, there are shown many transfers of automobiles to different parties who then did not have the license renewed.

## Illinois Car Titles Show Slight Decline in Month

CHICAGO, Nov. 14.—There was a drop of 2 per cent in total registration of new passenger cars in Illinois during October as compared with September. Had it not been for the fact that Fords gained 110 per cent over the preceding month, the loss, so far as total registration is concerned, would have been much greater, as there were declines in all other price divisions.

Low-priced cars (excluding Fords) were off 22 per cent while the decreases in the medium and high-priced groups were 26 and 6 per cent respectively.

Following are the detailed figures for the first ten months of 1925:

Low, excl.					
Month	Fords	Fords	Medium	High*	Total
Jan. ....	4,060	2,275	5,748	808	12,891
Feb. ....	3,424	1,718	4,977	612	10,731
March ....	5,714	2,729	6,416	784	15,643
April ....	9,010	3,755	8,801	861	22,427
May ....	8,751	3,644	8,014	899	21,308
June ....	6,473	3,400	6,383	828	17,084
July ....	8,499	4,305	8,787	1,035	22,626
Aug. ....	4,686	3,218	6,646	720	15,270
Sept. ....	1,831	3,145	6,292	661	11,930
Oct. ....	3,953	2,430	4,652	615	11,650
Total .....	56,401	30,619	66,716	7,823	161,560

\*Includes miscellaneous cars not named.

The foregoing figures were compiled from statistics furnished to Motor Age by Robinson's Advertising Service, Springfield, Ill.

## FLINT PICKS MORRIS

FLINT, Mich., Nov. 19.—W. O. Crabtree, salesmanager, Flint Motor Co., announces the appointment of George R. Morris as assistant sales manager. L. F. Barrett has been appointed regional manager for the Eastern territory with headquarters in New York.

## U. S. Race Records May Be Given European Recognition

**International Association Votes Change in Laws Allowing America to Present Marks**

PARIS, Oct. 30.—(by mail)—American automobile records doubtless will obtain European recognition by reason of the action taken by the International Association of Recognized Automobile Clubs at its annual meeting held in Paris yesterday. This gathering voted a change in the statutes by which a national club will have the right to delegate any part of its powers to another club or association.

The United States has always been represented in Europe by the Automobile Club of America, which having no control over racing avoids discussion on this subject, and neglects to submit American records for European and world recognition. The rules of the International Association having been changed, it is understood that the A. C. A. will transfer its sporting representation to the American Automobile Association, the practical outcome of this being that American speed records which at present have no standing in Europe, will obtain international recognition.

Colonel Drake, one of the European representatives of the A. C. A. has just left for America and is understood to be in favor of requesting the A. A. A. to take a position on the international association. William S. Hogan, also an A. C. A. delegate, is favorable to this transfer of power.

Germany was admitted to the International Racing Board at the recent meeting, but Switzerland and the Scandinavian countries, having no automobile industry, were merely admitted in a consultative capacity, without the right to vote.

## Detroit Registers 7,366 Automobiles in October

LANSING, Mich., Nov. 14.—Seven thousand three hundred and sixty-six passenger cars were titled in Wayne county during the past month, figures just released by Secretary of State Charles DeLand Show. This is one of the best fall months that Wayne county has ever experienced.

Of the total, 5,353 were closed models, the remainder, 2,013 being roadsters and touring cars.

Ford gaining momentum after a slack period led the field with 3,421. Of this number 1,812 were open jobs and 1,609 closed models. It was the only make of cars in which the open cars sales exceeded the closed models.

A total of 876 new trucks were titled with Ford again in the lead with 577 trucks. Twenty-one new tractors were titled, 19 being Fordsons and two Gotsfredsons.



## Along Automobile Row



**MONTREAL.**—Chevrolet Motor Sales Co. of Montreal, Ltd., has incorporated here.

**SPRINGFIELD, Mass.**—Observing the fourth anniversary of the opening of the new Buick salesroom, the Springfield Buick Company threw open its latest addition, a two-story structure that will house the Buick car maintenance department on the second floor and the G. M. C. Truck and Yellow Cab salesrooms on the ground floor.

**WILMINGTON, N. C.**—M. C. Borst & Co., local distributor for the Chrysler automobile, will erect a new home here. The building will not only provide a home for the Chrysler agency but will be sufficiently large to take care of 100 automobiles for storage.

**CINCINNATI.**—Robert Puthoff, 1816 Freeman Avenue, one of the largest used car dealers of Cincinnati district and a sub-dealer of the Oakland and Studebaker cars, has leased his business for five years to Walter Schott, proprietor of the Schott Auto Company, and largely interested in the Wood Motor Company, distributors for the Auburn.

**LOS ANGELES.**—Walter M. Murphy Co., Hudson and Essex distributor, Los Angeles, announces the appointment of the Al G. Faulkner, Inc., as a metropolitan dealer in Los Angeles.

**HENDERSON, N. C.**—The Vance Motor Co. is a new corporation in Henderson, which has just been chartered and organized to handle selling of the Chrysler automobile. R. S. McCain is the president, C. E. Winston vice-president, and A. B. Webster, secretary and treasurer.

**ROCHESTER, N. Y.**—G. F. LaFountaine and Company has opened a new automobile finishing plant occupying the entire third floor of the Cayford Garage, one of the largest in the city. The new automobile shop specializes in painting, lacquering, upholstering and body and fender repairing.

**SEATTLE.**—W. E. Navin, veteran automobile representative, has been named sales manager of Central Chevrolet Company, Inc. This company now owns Jackson Chevrolet, Westlake Chevrolet and Varsity Chevrolet.

**BUNCETON, Mo.**—Tom Etter of this city has accepted a position with the Cline Motor Company of Booneville, agents for the Chevrolet automobiles in this territory.

**McMINVILLE, Ore.**—E. M. Briedwell will open a new garage in the Woodmen Building and will handle the Star. Briedwell formerly had the Ford agency which he sold out to Gilbert and Tilbury.

**DALLAS, Tex.**—The Auburn-Dallas Company, organized for the purpose of handling Auburn automobiles in the Dallas territory was formed this week.

**SEATTLE.**—Ralph E. King, salesman for the William O. McKay Company, authorized Ford dealer of Seattle, is the possessor of a Fordor sedan presented to him during the last week by Branch Manager R. W. Hines, because of his success in winning a two months' contest held by 29 dealers in this territory.

**VANCOUVER, B. C.**—The Locomobile Sales, Ltd., of this city has incorporated.

**DAVENPORT, Ia.**—William Lane, for 17 years in automotive sales business in this territory, has joined the Neuman Machine Co., which lately took over the Studebaker agency, and Walter Gibbs, with the Western Motors Co. former Studebaker agency, has joined the Neuman staff.

**MONTGOMERY, Ala.**—A. S. Heilborn announces the formation here of the Alabama Acceptance Corporation, the purpose of the company being to specialize in the handling of automobile paper. The capital stock is \$1,000,000, and is backed by prominent Alabama business men.

**FOND DU LAC, Wis.**—The Voell Auto Sales Co., Hudson-Essex and Cadillac dealers of this city has purchased a site on South Main Street and will erect a new garage and salesroom at once. The new home will be ready for occupancy by March 1.

**LOS ANGELES.**—The Lukavisky Motor Company, Gardner dealer, Los Angeles, recently occupied its new sales and service building in the heart of the residential district of Los Angeles.

**CLEVELAND, O.**—One of this week's announcements of interest along automobile row is the appointment of C. G. Powers as sales manager of the Stearns Motor Sales Company. For the last six years Powers has been sales manager for the Towell Cadillac Company here.

**MILWAUKEE.**—Walter Denchel, who has been identified with the automobile business here for the last eight years, has joined the sales force of the Kraatz Motor Co., Hupmobile dealer on North Avenue.

**COLUMBUS, O.**—The Miller-Main Nash Co., is the name of a new concern, a partnership composed of Fred W. Heiser and J. W. Stallsmith, to handle the Nash and Ajax lines. A service station and general repair shop is also operated.

**BOSTON.**—P. A. Williams, Jr., celebrated the first anniversary of his entering his new sales and service building at Springfield, Mass., last week with a luncheon attended by men prominent in business activities of all kinds. It was held in the showroom where he displays his line of Dodge Brothers cars and Graham Brothers trucks.

**ROCHESTER, N. Y.**—Archer R. White has been appointed dealer in Davis cars in this territory and has opened a sales and service station at 523 Court Street.

**COLUMBUS, O.**—The Columbus Bumper Sales Co., has been chartered with an authorized capital of \$10,000 to take over the bumper and automotive accessory business at 389 Chapel Street, Columbus, which has been operated by L. T. McCann for three years under his name.

**COEUR D'ALENE, Ida.**—P. J. Broderick, Chevrolet dealer, has recently completed a new garage in the Lake City.

**CHICAGO.**—The Kullberger Motor Sales, Inc., Reo dealer, opened its new sales and service station at 1441 East Seventy-first Street with the presentation of a Reo brougham to Alderman Meyering on behalf of the business men of the ward, by Mayor W. E. Dever.

**NEW YORK.**—O. H. Pease, New York Willys-Overland service manager, announces the addition of an upper floor of 37,500 square feet at the factory branch service building, 521 West Fifty-seventh Street, and the addition of 20 mechanics to the service force.

**SAN JOSE, Cal.**—Cameron & Macdonald, who for some time past have handled the Star in this territory, have given up the line and now have the Hudson-Essex franchise. This gives Hudson two dealers in San Jose, the other being Normandin-Campen Co.

**LOS ANGELES.**—The Troy Motor Sales Company, Nash and Ajax distributors, announces the appointment of the Allan L. Leonard Company, pioneer automobile dealers of the city, as a metropolitan dealer. Until recently Leonard had a Hudson and Essex agency.

**TOLEDO.**—The Toledo Paige-Jewett Co., is the name of a recent incorporation, chartered with a \$20,000 capital to deal in automobile parts and accessories.

**TRAER, Ia.**—The C. & L. Motor Company has acquired a lot adjoining the Ford garage and will erect a new garage and accessory shop. The C. & L. company has also acquired the Chevrolet agency for this territory.

**NEW ORLEANS.**—The New Orleans Buick Co., which recently opened a branch at 635 N. Rampart St., has sold the branch to the recently organized firm of Orleans Auto Co., which is composed of K. W. Chancellor and Waring Hamilton, the former secretary-treasurer of the New Orleans Buick Co., and the latter sales manager of the same firm. The new firm will sell Buicks.

**ASHEVILLE, N. C.**—R. L. Boland, distributor, of Waynesville, has opened an Oldsmobile agency here.

**ALEDO, Ill.**—Howard Steven has established a Hudson and Essex agency and service garage here. His son, Joseph, of Bloomington, and Ralph Hudson, formerly in charge of the Hudson-Essex agency, will be associated with him.

**MADISON, Wis.**—Capital City Tire Co. of this city has moved from its location on South Pinckney Street to the quarters formerly occupied by the Fox Motor Sales Co. at 107-11 East Doty Street.

**SACRAMENTO, Cal.**—Hudson-Essex now have two dealers here. In addition to Arnold Bros., who have represented the line for many years, Bagwill & McShane recently acquired the franchise. "Barney" McShane of the new firm relinquished his position as Sacramento's chief of police to enter the automobile business.

**NEW YORK.**—Van Alstyne Motor Corp., Hupmobile distributor, has opened a branch in the Washington Heights section at 1231 St. Nicholas Avenue with F. A. Blank as manager.

**CHICAGO.**—Leokady Tafel, Philip A. Tafel and Frank Tafel, Jr., have organized the Tafel Auto Sales, Inc., and will buy and sell used motor vehicles at 907 Diversey Parkway.

**CLEVELAND, O.**—O. N. Bashaw, president of the Bashaw-Oakland Company has just announced the appointment of H. A. Ruskin to the sales department of the company.

**ATLANTA.**—The Bay Tire Co., Inc., is a new distributing firm at Mobile, Ala., organized recently for the handling of tires and automotive equipment.

**KALISPEL, Mont.**—The W. B. Lewis Auto Company has moved into a new location in the Armory Building, and in addition to carrying a complete line of auto equipment is also agent for Overland and Reo cars.

**CLEVELAND, O.**—The Indiana Cleveland Truck Corporation, has been chartered with an authorized capital of \$10,000 to deal in trucks and tractors.

**DES MOINES, Ia.**—The Overland Huntzinger Company has leased half the Payne Motor Building at 1312 Locust Street for display purposes and is showing its new models at that location.

**DETROIT.**—A. W. Handy is the latest Ford dealer to open in Lansing. Ground for a modern sales and service building has been bought at 1140 S. Washington Street that city, and construction is scheduled to start immediately.

**SIDNEY, O.**—The Hudson-Essex Sales Co., has been chartered with an authorized capital of \$10,000 to sell Hudson and Essex motor cars and accessories, and operate a general garage.

**ATLANTA.**—R. L. Boland, of Waynesville, N. C., is a new distributor for the Oldsmobile line who recently entered the field at Asheville, N. C., handling the Oldsmobile in that section of the North Carolina territory.

**POMEROY, O.**—The Pomeroy Chevrolet Co., to be located in Main Street, has been chartered with an authorized capital of \$10,000.

**KIRKLAND, Wash.**—Ed Blau has taken the Chevrolet agency here which will be known as the Blau Chevrolet Company.

## With the Associations

### Burt Heads Race Drivers

CHICAGO, Nov. 14.—At the annual meeting of the Central Race Drivers' Association here, the following officers were elected for 1926: Andy Burt, president, J. A. Turner, vice president, M. A. Markham, secretary, and George Ketcham, treasurer. The board of directors now includes Harry Hienly, William Claus, E. E. Burback, Walter Martin, Kent Ramsey, D. D. Morris and Sonny Talamont.

All the elected officers have been connected with the racing game for a number of years. Andy Burt, as far back as 1909, drove under the A. A. A. colors against Burman, Dewitt, Buck and others. Claus was an A. A. A. driver in the days of the Brighton Beach 24-hour races.

The Central association controls nearly every dirt track in the central United States and numbers some 200 drivers in its membership. Until this year the membership was open only to drivers and mechanics but now any one connected with the automobile business will be taken in as an associate member.

The association is chartered under the laws of Illinois and is not for profit. Its object is to foster, encourage and conduct automobile races, to provide for the admission of persons owning or driving automobiles in such races, to maintain a social club for the benefit of such persons, and otherwise to promote the interests and welfare of its members.

The association maintains a benefit fund for its members who may be killed or injured while driving.

It sanctions and supports tracks and promoters who run only competition races, who keep track and stands in good condition, and who charge fair admission prices.

### Paris Club Formed

PARIS, Oct. 30.—(By Mail)—On the initiative of George F. Bauer, foreign trade secretary of the National Automobile Chamber of Commerce, the American Automotive Club of Paris was officially constituted a few days ago with H. H. Kelly, assistant commercial attache, as president, Christian Lie of the Buick company as vice-president, and Charles Jeroche of the Goodyear company, as second vice-president.

Informal in character and broad in its scope, the American Automotive Club of Paris will meet monthly at noon luncheon, when it will entertain leaders of the American automotive industry passing through the French capital. General matters affecting the American automotive industry in Europe will be discussed and joint action taken when desirable. The temporary mailing address of the club is Office of the Commercial Attache, 5 Rue de Chaillot, Paris.

Leaders of the industry and prominent

Americans in France who are charter members of the club comprise S. D. Briggs (Chrysler), Alexander Lie (Ford), Christian Lie (Buick), Arthur Lumsden (Goodrich), Charles Jeroche (Goodyear), and Keith Goode (Harley Davidson).

### Three Associations Merge

CHARLOTTE, N. C., Nov. 14.—The Automotive Merchants' Association, the Automotive Service Association, and the Car Dealers' Association, the three automotive organizations of this city, Monday consolidated into one big organization to be known as the Charlotte Automotive Merchants' Association.

Officers of all three organizations resigned and new officers were elected for the new organization and a new set of by-laws were adopted. The new association will hold two meetings a month.

The officers elected are: K. A. Grice, who was president of the service association, president; Fred Anderson, who was president of the car dealers' association, and Caldwell McDonald an officer of the service association as vice presidents. Miss Francis Hendren, who served as secretary-treasurer of all three organizations will continue in that capacity for the new organization.

Six directors were also elected: Lee A. Folger, J. P. Harriss, J. H. Huntley, H. D. Horton, Tom Glasgow and W. C. Montgomery.

### Denver Dealers Elect

DENVER, Nov. 14.—At the last meeting of the Denver Automobile Dealers' Association the following officers were elected for the ensuing year:

Myron L. Smith, president of the Sharnan Automobile Company, president Ralph Fischel, vice-president Norton-Buick Automobile Company, vice-president. Thomas Braden, secretary-treasurer.

The following board of directors was chosen:

H. E. Parkinson, Denver-Franklin Automobile Co.; Ray Young, vice-president O'Merra-Young Automobile Co., Vernard Mahoney, Murphy-Mahoney Motor Co., Tom Savage, Savage Motors Co., and Ward Thompson of the Cullen-Thompson Motor Co.

### Service Stations Join

SPOKANE, Wash., Nov. 14.—Independent service stations here have been organized into a branch of the Independent Service Station Owners, Inc., for the purpose of maintaining prices of gas and oil. About 50 stations are represented and it was decided that competition of the large oil companies can best be met by maintaining their prices. Officers are John Bech, president; D. L. Andrews, secretary and manager; Earl Gatewood, financial manager; H. Sorenson, membership manager.

### New Bureau Planned

ST. LOUIS, Nov. 14.—Preliminary steps to organize a Sales Directors' Bureau of the St. Louis Automobile Dealers' Association were taken at a meeting of five prominent directors of sales for St. Louis Automobile Dealers at a meeting held in the office of Robert E. Lee, manager of the association.

The purposes of the organization will be full discussions of sales practices and elimination of unethical methods, such as misrepresentation of competitors' cars by salesmen.

It is planned to have monthly meetings at which some prominent figure of the automobile industry will speak. Edward S. Jordan, president of the Jordan Motor Car Co., will likely be the speaker at the first meeting. Harry G. Moock of the Hudson Motor Car Co., of Detroit, will probably speak at an early meeting.

There is also to be a set program of addresses on specific features of automobile selling, handling of salesmen, compensation for salesmen and other matters of interest by members of the bureau.

Joseph N. Kellerman of Hudson-Frampton Motor Car Co., George T. Willett of De Luxe Automobile Co., Harry C. Herring of Cleveland Motor Sales Co., L. M. Stewart of G. M. Berry, Inc., and J. W. Richardson of the Mississippi Valley Motor Co., attended the meeting at which the plans for the bureau were formulated.

### Winter Care Emphasized

ST. LOUIS, Nov. 14.—A bulletin on the winter care of automobiles has been sent to all members of the St. Louis Automobile Dealers Association by Robert E. Lee, manager.

In this bulletin Lee calls attention to the necessity at this time of the year of carefully going over automobiles that are to be used during the winter, which include about 99 per cent of the cars in St. Louis. The old practice of putting the car away for the winter is obsolete, he said.

The bulletin calls attention to the need of winter oil for the crank case, summer oil not being suitable when the thermometer is below 25 degrees. The same warning applies to the lubrication of rear axles and differential gear boxes.

The right proportion of radiator solution must be used when the temperature drops below 30 degrees and these proper proportions are definitely stated in the bulletin and on a card enclosed with it to be posted in all service stations.

Generators and batteries must be checked up and prepared for winter weather.

Owners are warned to have their gas lines cleaned, vacuum tanks freed from sediment and floats examined for corrosion or holes.

## Delage Refuses to Race in Next French Grand Prix

### 1925 Winner Says 91½ Inch Car Too Dangerous to Drive and Serves No Good Purpose

PARIS, Oct. 30.—(by mail)—As a protest against the 91½-inch racing rule, which he considers has developed a dangerous and unsatisfactory type of car, Louis Delage stated yesterday that he would not compete in next year's French Grand Prix. The announcement was made in an after-dinner speech at the Automobile Club of France when the Delage drivers were presented with the first and second prizes won by them in this year's French race.

Delage states that he has not taken this decision because one of his drivers was killed this year, but in order to draw attention to the fact that modern racing cars are too fast for safety and no longer have any direct influence on automobile construction.

"There are not more than six drivers in the whole of Europe capable of handling a modern 122-inch racing car on the road at its maximum speed. As a consequence victory merely goes to the best driver or the one willing to take the greatest chances. Because there is more power than the drivers dare use, the cars are no longer tested to the utmost," says Delage.

Another reason for declining to start in the leading French event is that in France competition is practically confined to two firms and even the international field does not comprize more than four firms.

Delage maintains that speed should be cut down to a reasonably safe limit, the best way to do this in his opinion being to limit the cost of running—cost of gasoline and oil. Cars of 1400 pounds weight running only 7 miles to the gallon are not practical propositions, he affirms.

While not starting in the French Grand Prix, Delage will keep his racing and experimental department together and will compete in events he considers of sufficient interest. As Delage is the most important firm in France maintaining an active racing program, this decision and the criticism of the French Club which it embodies has caused a sensation.

## Delivery Problem Aids Sale of Used Cars in N. Carolina

CHARLOTTE, N. C., Nov. 14.—The inability of dealers in numerous lines of motor cars to obtain supplies of new cars adequate to fill orders is a doleful situation which is developing a bright side in the continuing good demand for used cars. While the larger dealers here appear to have an average of from eight to twelve used cars on hand, it was generally said that this number is only a "satisfactory" stock.

The situation with respect to new cars is not expected to show much improve-

New York.....Jan. 9-15  
National Automobile Show in Grand Central Palace.

Newark, N. J.....Jan. 16-23  
Nineteenth annual Automobile Show under auspices of New Jersey Automobile Exhibition Co., Chamber of Commerce Building.

Bpffalo, N. Y.....Jan. 16-23  
Buffalo automobile show by Buffalo Automobile Dealers' Association in 174th Regimental Armory, Carlton C. Proctor, manager, headquarters, Hotel Statler.

Cleveland, O.....Jan. 23-30  
1926 Automobile Show under auspices of Cleveland Automobile Manufacturers' and Dealers' Association, Herbert Buckman manager, in Public Auditorium.

Lowell, Mass.....Jan. 25-Feb. 1  
Twelfth automobile show in Memorial Auditorium by Automobile Merchants' Association of Lowell, Inc., George R. Garmon, manager, 119 E. Merrimack Street.

Chicago.....Jan. 30-Feb. 6  
Twenty-sixth Annual National Automobile Show and Eleventh Annual Automobile Salon.

Washington.....Jan. 30-Feb. 6  
Automobile show under auspices of Washington Automotive Trade Association in Washington Auditorium Building, Rudolph Jose, manager.

San Francisco.....Jan. 30-Feb. 6  
Tenth annual Pacific Automobile Show under direction of Motor Car Dealers' Association of San Francisco, in Exposition Auditorium, G. A. Wahlgreen, 215-16 Humboldt Bank Bdg., manager.

Denver.....Feb. 2-6  
Annual automobile show under auspices of Denver Automobile Dealers' Association, in Municipal Auditorium, Myron L. Smith, chairman of committee.

### COMING FEATURE ISSUES OF CHILTON CLASS JOURNAL PUBLICATIONS

January 1—National Shows Number—Automobile Trade Journal.  
January 7—Motor Age—National Shows Number.  
January 14—Motor World Wholesale—New York Show Report.

Providence, R. I.....Feb. 6-13  
Providence automobile show under auspices R. I. Automobile Dealers' Association, Chester I. Campbell, manager, 617 Industrial Trust Bldg.

Toledo, O.....Feb. 8-13  
Annual show by Toledo Automotive Trades Association in Civic Center Garage, T. J. Cooper, manager, 925 Jefferson Avenue.

Louisville, Ky.....Feb. 15-20  
Louisville Automobile Show, Armory, under the auspices of the Louisville Automobile Dealers Association, J. Garland Lea, manager.

Hartford, Conn.....Feb. 20-27  
Automobile show by Hartford Automobile Dealers' Association in State Armory, Arthur Fifoot, manager, Hotel Bond.

Boston.....Mar. 6-13  
Boston Automobile Show under auspices of Boston Automobile Dealers' Association, Inc., and Boston Commercial Motor Vehicle Association, Inc., in Mechanics' Building, Chester I. Campbell, manager, 329 Park Square Bldg.

## Races

Los Angeles, Cal.....Nov. 26

## Conventions

New York.....Jan. 11-13  
Second World Motor Congress, under auspices of National Automobile Chamber of Commerce.

Chicago.....Feb. 9-10  
American Drivurself Association Annual Convention.

Galveston, Tex.....May 12-13  
Tenth annual convention of Texas Automotive Dealers' Association in Galvez Hotel.

## Foreign Shows

Berlin, Germany.....Nov. 26-Dec. 6  
Annual Automobile Show in the Kaiserdamm.

ment until after the holidays, for almost all dealers are forecasting a substantial increase in buying as the Christmas season approaches.

The idea of an automobile for a Christmas gift for the family seems to be gaining in favor in this territory. Conditions in South Carolina are mixed, and ranging from fair to poor, with a few localities reporting a satisfactory demand for new cars.

## LUCAS HEADS FLINT BRANCH

ATLANTA, Nov. 14.—Changes in the personnel of the retail department of the Atlanta branch of the Flint Motor Co., 236 Peachtree St., have been recently announced. W. L. Shackelford has been appointed retail sales manager; George Kigler has been named service manager and J. H. Lucas general manager of the branch.

## ST. LOUIS PLANS CONGRESS

ST. LOUIS, Nov. 14.—A sales congress will be conducted here by the National Automobile Dealers' Association for dealers in the St. Louis trade territory, including eastern Missouri, southern Illinois, parts of Tennessee, Kentucky and Arkansas, on December 14.

## NEW GARDNER DEALERS

ST. LOUIS, Nov. 14.—New dealers added to the organization of the Gardner Motor Co., Inc., include the following:

Silver Beach Motor Sales, Chicago, Ill., Fetterman Bros., Washington Pa., Central Garage, Kingston, N. Y., Crossman Motor Co., Joplin, Mo., Daylight Garage, Chicago, Ill., Gillespie Motor Co., Springfield, Mo., Southern Garage, Bakersfield, Cal., E. E. Cronenweth, Glendale, Cal., Stagle & Rice, Pomona, Cal., Hickman-Gardner Motor Co., Miami, Fla.

## All October Business Marks Are Broken in Cleveland

**Increase in Sales Is 82 Per Cent Over  
Same Month Last Year,  
Report Shows**

CLEVELAND, O., Nov. 14.—All October records for the retail automobile business in Cleveland were shattered last month, according to announcement just made by the Cleveland Automobile Manufacturers' and Dealers' Association.

As an indication of the large volume of business done 3,218 bills of sale for new cars were filed with the clerk of court during the month. This is an increase of 82 per cent over the number of bills filed during October last year. The number then was 1,766.

Used cars also moved with rapidity, seasonal factors being taken into consideration. In spite of weather in advance of the season 7,245 bills of sale for used cars were filed. In October, 1924, only 6,051 such bills were filed, while in October, 1923, the number of such documents was 6,251.

The October volume of business done by parts and accessories retailers and wholesalers likewise was good, although records in this phase of the industry were not broken.

### PACKARD STOCK INCREASED

DETROIT, Nov. 14.—Stockholders of the Packard Motor Car Company in their annual meeting voted to authorize the increase in common stock from \$30,000,000 to \$50,000,000. Of the \$30,000,000 common stock now authorized, only \$23,770,200 has been issued. All of the present members of the board of directors were reelected. The officers of the company remain the same.

## Show Is Greatest Ever Held

(Continued from page 33)

entire period last year.

Manufacturers and jobbers alike declared that 1925 had been a record year—that the only excuse for not getting business this year was the lack of aggressive effort. Nearly every manufacturer reported that he had been kept at top output to keep up with demand, while jobbers cited the number of dealers added to retail their products as the best indicator of a prosperous business.

Every manufacturer and wholesale distributor present at the show was optimistic for 1926. They are of the opinion that the coming year will set an even higher mark than 1925. The continued high production of automobiles and the ambitious plans of the motor car manufacturers for 1926 have fixed firmly in the mind of the parts and equipment makers and distributors the belief that 1926 is certain to be the high year of history.

### REO MODEL REDUCED

LANSING, Mich., Nov. 14.—The Reo Motor Car Company has announced a price cut of \$200 on the Sport Touring model on its "T-6" chassis. This model which was formerly listed at \$1595 now sells at \$1395.

## New Steam Power Plant Is Developed for Automobiles

CLEVELAND, Nov. 14.—First traffic tests were conducted here this week of a new form of automobile steam power plant, built by a manufacturer of long established reputation and backed by ample Eastern capital which has not yet been interested in the automotive field.

The power unit when tested was installed in the chassis of a very well known make of taxicab, the name of which the engine manufacturers do not wish revealed.

When tests are completed the engine is to be manufactured in quantity for taxicab and bus operation by the Steam Appliance Corporation of America, which has been incorporated in Ohio. The engine was developed by W. E. Baker, formerly of Erie, Pa., and Harper, Okla., in the laboratories of Baker Motors, Inc., here.

## A. E. A. Votes to Expand

(Continued from page 34)

The remainder were publications and special departments of the A. E. A. headquarters.

Thirteen new members were admitted to the association at a meeting just preceding the annual convention here this week, and these together with 27 others that have been elected since the summer meeting of the association, were introduced at the opening session of the convention.

The new members elected at this convention are:

### Jobbers

Automobile Necessities Co., New York City.

Barker, Rose & Clinton Co., Elmira, N. Y.

Benton-Bailey Co., Richmond, Va.

Berner-Pease Co., Miami, Fla.

Canadian General Electric Co., Toronto.

Herman-Brownlow Co., Springfield, Mo.

Keith-Simmons Co., Nashville, Tenn.

Myers Tri-State Supply Co., Joplin, Mo.

Richard & Conover Hardware Co., Kansas City, Mo.

Van Zandt Leftwich Auto Supply Co., Huntington, W. Va.

### Manufacturers

American Auto Lamp Co., New York City.

Hall Mfg. Co., Toledo, O.

Thompson Specialty Mfg. Co., Springfield, Mass.

## Tom Milton Wins Armistice Day Race at Charlotte, N. C.

**Harry Hartz Is 32 Seconds Behind  
Winner While Wonderlick  
Lands Third**

CHARLOTTE, N. C., Nov. 14.—Tommy Milton won the Armistice Day classic at the Charlotte speedway by a demonstration of spectacular driving after gaining the lead when Earl Cooper went into the pits on his 131st lap of the 200 lap race around the mile and a quarter bowl. Harry Hartz was second and Jerry Wonderlick was third, 32 and 43 seconds, respectively, behind the winner, whose time for the 250 miles was 2:00:41.67. The average speed of the winner was 124.3 miles per hour.

Fouled spark plugs forced Cooper into the pits and caused him to lose the lead, which he gained from Bennett Hill early in the race, witnessed by approximately 40,000 persons.

Only ten of the seventeen starters finished. Others than the three winners dividing the \$25,000 purse were Batten, fourth; Comer, fifth; Elliott, sixth; Hepburn, seventh; Duray, eighth; Evans, ninth; Shattuc, tenth.

McDonogh crashed into the inside railing on his 65th lap, the driver escaping injury, though his car was wrecked. DePaolo went out on his 75th lap; Hill, 109th; Reg Johnson, 53rd; Devore, 111th; Cooper, 180th; Kries, 135th. Twenty-one tire changes were made, of which Johnson made five. Milton drove the entire distance without a stop.

## Vice-President Howard of Cadillac Company, Is Dead

CLEVELAND, O., Nov. 14.—Earle Clark Howard, vice-president of the Cadillac Motor Car Company, died here today at noon in the Cleveland Clinic Hospital after an illness lasting several months. Mr. Howard came here from Detroit hoping to restore his health.

Mr. Howard first joined the Cadillac organization in 1906, going to that company from the National Cash Register Company. He entered the sales department under William E. Metzger, advancing rapidly until he succeeded Ernest R. Benson as sales manager. In 1919, Mr. Howard left Cadillac to form the Lafayette Motors Corporation of which he became vice-president and general manager. Five years later he joined the Fisher Body Corporation in an executive capacity until January of the present year when he again joined the Cadillac organization as assistant to the president. Shortly afterwards he was made vice-president.

### FERRIS JOINS ROAMER

LOS ANGELES, Nov. 14.—W. E. Ferris, who has had a broad experience in the automotive industry, has been appointed manager of the wholesale department of Mutual Motors, Inc., Los Angeles, Southern California Roamer distributors.

# Prices and Weights of Current Passenger Car Models

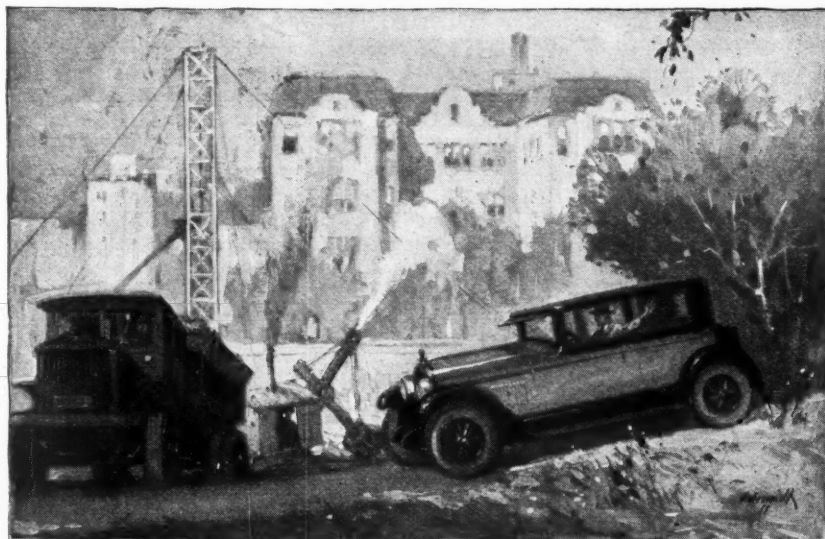
SHIP. WT. PASS. BODY STYLE. PRICE	SHIP. WT. PASS. BODY STYLE. PRICE	SHIP. WT. PASS. BODY STYLE. PRICE	SHIP. WT. PASS. BODY STYLE. PRICE
<b>AJAX</b>	<b>"Six" (112 1/4 in. W. B.)</b>	<b>DURANT</b>	<b>JEWETT</b>
108 in. W. B.	2510 5-p Coach 1,045	A-22	"23-25"
2210 5-p Touring \$865	2570 5-p Std. Sedan 1,095	Sp. Roadster \$900	3060 4-p DeLuxe Road. \$1,500
2410 5-p Sedan 995	2805 4-p Roadster \$1,625	Touring 810	3000 5-p DeLuxe Touring 1,320
<b>APPERSON "6"</b>	2785 5-p Phaeton 1,895	Spec. Touring 930	2990 5-p Coach 2d. 1,245
3100 5-p Phaeton \$1,575	2895 5-p Coach 1,445	4-p Coupe 1,090	3160 5-p DeL. Coach 2d. 1,400
3130 5-p Sp. Phaeton 1,650	2935 4-p Coupe 1,795	Spec. Coupe 1,160	3325 5-p DeLuxe Sedan 1,680
3145 4-p Coupe 2,050	2995 5-p Brougham 1,865	5-p Sedan 1,150	
3570 5-p Sp. Sedan 2,100	3060 5-p Sedan 1,695	Spec. Sedan 1,280	
3520 5-p Brougham 2,050	3085 5-p Imperial Sedan 1,995		
<b>"ST8"</b>	3090 5-p Crown Sedan 2,095	<b>ELCAR</b>	<b>"4-55"</b>
3520 5-p Sp. Phaeton 1,995	(118 1/4 in. W. B.)	2560 5-p Touring \$1,095	4-p Touring 1,095
3750 4-p Coupe 2,450	3225 5-p Town Car 3,725	Coach 1,195	5-p Sedan 1,395
3770 5-p Brougham 2,450	<b>CLEVELAND "31"</b>	2779 5-p Sedan 1,395	
3790 5-p Sedan 2,595	2415 5-p Touring \$895	<b>"6-65"</b>	
<b>AUBURN</b>	2565 5-p Touring DeLuxe 1,025	5-p Touring 1,295	
"6-66"	2520 3-p Coupe 975	Coach 1,395	
2850 4-p Sport-Roadster 1,495	2695 5-p Sedan 995	Sedan 1,595	
2860 6-p Touring 1,395	<b>"43"</b>	<b>"8-80"</b>	
3020 5-p Brougham 1,595	2775 5-p Touring 1,095	4-p Roadster 2,315	
3070 5-p Sedan 1,795	2950 5-p Sp. Touring 1,195	5-p Sp. Touring 2,165	
3070 5-p Wanderer 1,845	3000 5-p Coach 1,295	7-p Touring 2,265	
<b>"8-88"</b>	2890 3-p Coupe 1,175	3000 3-p Coupe Roadster 2,315	
3180 3-p Sport Roadster 1,975	3120 5-p Sedan 1,295	5-p Sedan 2,265	
3200 6-p Touring 1,995	3190 5-p Sedan DeLuxe 1,595	4-p Sedan 2,765	
3380 5-p Brougham 2,250	3190 5-p Sport Sedan 1,625	7-p Brougham 2,865	
3450 5-p Sedan 2,350	<b>CUNNINGHAM</b>	<b>ESSEX</b>	
3450 5-p Wanderer 2,400	"V-6"	2185 5-p Touring \$765	
3750 7-p Sedan 2,550	4600 7-p Touring \$7,000	Coach 795	
<b>BUICK</b>	4500 4-p Sp. Touring 6,500	<b>FLINT</b>	
"Standard"	4700 4-p Coupe 8,000	3225 4-p Sport Roadster \$1,950	
2845 2-p Roadster \$1,125	5000 6-p Limousine 8,500	3245 5-p Touring 1,595	
2955 5-p Touring 1,150	<b>DAGMAR</b>	3310 4-p Sp. Touring 2,050	
3020 2-p Coupe 1,195	"6-70"	3245 4-p Coupe 2,195	
3150 4-p Coupe 1,275	3750 4-p Roadster \$3,500	3595 5-p Sedan 2,285	
3230 5-p 4 d. Sedan 1,295	3800 4-p Sp. Tourer 3,500	3565 5-p Brougham 4d. 2,485	
3110 5-p 2 d. Sedan 1,195	3700 4-p Phaeton 3,500	<b>"40"</b>	
<b>"Master"</b>	4200 4-p Petite Coupe 4,500	2715 5-p Touring 1,185	
(120 in. W. B.)	4200 4-p Petite Sedan 4,500	2940 5-p Sedan 4 d. 1,495	
3350 2-p Roadster 1,250	4500 4-p De Luxe Coupe 4,750	2965 5-p Brougham 1,575	
3515 5-p Touring 1,295	4700 5-p Sedan 4,700	<b>FORD</b>	
3670 5-p Sedan 1,495	4800 7-p Sedan 4,750	Without Starter and Dem. Rims	
3765 5-p 2 d. Sedan 1,395	<b>"6-60"</b>	1526 2-p Runabout \$260	
(128 in. W. B.)	3100 4-p Roadster 1,985	1587 With Balloon Tires 305	
3570 3-p Sp. Roadster 1,495	3200 4-p Sp. Touring 1,985	1607 5-p Touring 290	
3635 5-p Sp. Touring 1,525	3150 5-p Touring 1,785	1640 With Balloon Tires 335	
3855 4-p Country Club 1,765	3500 5-p Sedan 2,445	With Starter and Dem. Rims	
3805 4-p Coupe 1,795	<b>DAVIS</b>	1645 2-p Runabout 345	
4025 5-p Brougham Sedan 1,925	"90"	1655 With Balloon Tires 370	
3940 7-p Sedan 1,995	2650 4-p M. o'War Road. \$1,495	1728 5-p Touring 375	
<b>CADILLAC</b>	2915 4-p Legionaire Tour. 1,495	1738 With Balloon Tires 400	
"314" Standard Line	2750 5-p Phaeton 1,395	1851 2-p Coupe 520	
(132 in. W. B.)	2750 5-p Sedan 1,595	1860 With Balloon Tires 545	
4075 2-p Coupe \$3,045	3070 5-p Imperial Sedan 1,795	1961 5-p Sedan, Tudor 580	
5-p Sedan 3,195	3065 5-p Berline Sedan 1,795	1972 With Balloon Tires 605	
4155 7-p Sedan 3,295	<b>"91"</b>	1994 5-p Sedan, Fordor 660	
4240 5-p Brougham 2,995	2835 4-p Roadster 1,795	2004 With Balloon Tires 685	
4360 7-p Imperial 3,435	3020 5-p Phaeton 1,695	<b>FRANKLIN</b>	
4-p Victoria 3,095	5-p Sedan 1,895	"11-A"	
<b>Custom Built</b>	3245 5-p Imperial Sedan 2,095	2800 3-p Sport Roadster \$2,750	
(132 in.)	3215 5-p Berline Sedan 2,095	2845 5-p Touring 2,635	
----- Roadster 3,250	<b>DIANA "St. 8"</b>	2965 3-p Coupe 2,700	
(138 in. W. B.)	2970 5-p Roadster \$1,895	3175 5-p Sedan 3,090	
4300 7-p Touring 3,250	3100 5-p Phaeton 1,895	3080 5-p Sport Sedan 3,225	
3960 5-p Phaeton 3,250	3245 5-p Std. Sedan 2d. 1,995	3275 7-p Limousine 3,275	
4190 5-p Sedan 4,000	3245 5-p DeLuxe Sedan 2,195	4185 5-p Cabriolet 4,400	
4250 7-p Suburban 4,285	3130 5-p Cabriolet 2,095	5-p Oxford Sedan 3,172	
4355 7-p Imperial 4,485	3140 5-p Sedan de Luxe 2,095	<b>GARDNER</b>	
<b>CASE</b>	----- Sedan (135 in. W. B.) -----	6A	
J. I. C.	<b>DODGE BROTHERS</b>	3290 5-p Brougham \$1,595	
3260 3-p Roadster \$1,840	2473 2-p Roadster \$855	3070 5-p Touring 1,395	
3290 5-p Touring 1,885	2593 2-p Special Roadster 955	3030 4-p Sport Roadster 1,595	
3470 5-p Sp. Touring 2,160	2567 5-p Touring 875	3210 4-p Cabriolet 1,845	
3570 4-p Sub. Coupe 2,480	2695 5-p Spec. Touring 975	3280 5-p Sta. Sedan 1,595	
3640 5-p Sedan 2,590	2708 2-p Coupe "B" 960	3300 5-p DeLuxe Sedan 1,895	
3650 5-p Brougham 2,590	2823 2-p Spec. Coupe "B" 1,060	<b>8A</b>	
<b>"Y"</b>	2995 5-p "B" Sedan 1,045	3620 5-p Brougham 1,995	
3950 7-p Touring 2,225	3077 5-p Spec. "B" Sedan 1,145	3350 5-p Touring 1,995	
4320 7-p Sedan 2,975	3020 5-p Sedan A 1,195	3350 4-p Sport Roadster 1,995	
<b>CHANDLER "35"</b>	3107 5-p Spec. "A" Sedan 1,280	3480 4-p Cabriolet 2,245	
3090 2-p Roadster \$1,695	2723 5-p Coach 1,035	3620 5-p Sta. Sedan 1,995	
3085 5-p Sport Touring 1,495	2823 5-p Spec. Coach 1,135	3620 5-p Sport Sedan 2,295	
3223 7-p Touring 1,595	<b>DUESENBERG</b>	3600 5-p DeLuxe Sedan 2,495	
3309 5-p Brougham 1,695	Straight "3"	<b>GRAY</b>	
3525 5-p Met. Sedan 1,795	3920 2-p Roadster +	1750 5-p Touring \$595	
3498 5-p 20th Cent'y Sed. 1,490	3970 4-p Roadster +	1880 3-p Coupe 825	
3594 7-p Sedan 1,895	3700 4-p Phaeton \$6,650	2020 5-p Sedan 845	
<b>CHEVROLET</b>	3920 4-p Phaeton +	2130 5-p Royal Sedan 975	
"Superior" (Series K)	3980 4-p Sp. Phaeton +	<b>HERTZ</b>	
1780 2-p Roadster \$525	4500 7-p Sedan +	3360 5-p Sedan \$1,695	
1875 5-p Touring 525	†Manufacturers do not quote list prices.	<b>HUDSON</b>	
2080 2-p Utility Coupe 675	<b>DU PONT</b>	3400 7-p Phaeton \$1,250	
2130 5-p Coach 695	"D"	3385 5-p Coach 1,165	
2215 5-p Sedan 775	3300 2-p Roadster \$2,600	3425 5-p Brougham 4 d. 1,650	
<b>CHRYSLER "Four"</b>	3550 5-p Touring 2,600	3675 7-p Sedan 1,650	
(109 in. W. B.)	3300 7-p Touring 2,750	<b>HUPMOBILE "A"</b>	
2300 5-p Touring \$895	3550 5-p Touring Sedan 3,400	2620 5-p Touring \$1,225	
2405 2-p Club Coupe 995		2800 5-p Sedan 1,285	
		<b>"E"</b>	
		3050 2-p Roadster 1,795	
		3270 4-p Roadster 1,895	
		3135 5-p Touring 1,795	
		3295 2-p Coupe 2,095	
		3295 4-p Coupe 2,095	
		3410 5-p Sedan 2,195	

## RICE

SHIP. WT. PASS. BODY STYLE. PRICE				SHIP. WT. PASS. BODY STYLE. PRICE				SHIP. WT. PASS. BODY STYLE. PRICE				SHIP. WT. PASS. BODY STYLE. PRICE							
McFARLAN "6"				OVERLAND "91" 4				RICKENBACKER				STEVENS-DURYEA (Cont'd)							
"SV"				(100 in. W. B.)				"Six" (117 in. W. B.)				STUDEBAKER							
\$1,500	3700	2-p	Roadster	\$2,650	1919	5-p	Touring	\$495	-----	3-p	Roadster	\$1,595	4800	6-p	Sedan	9,675			
1,320	-----	2-p	Spec. Roadster	2,900	2060	2-p	Coupe	625	-----	5-p	Phaeton	1,495	4800	6-p	Town Brough.	10,175			
1,245	3600	5-p	Touring	2,650	2205	5-p	Sedan De Luxe	695	-----	3-p	Coupe Roadster	1,695	4800	6-p	Vestibule Limou.	9,675			
1,400	-----	7-p	Touring	2,750	2202	5-p	Std. Sedan 2 d.	595	-----	3-p	De Luxe	1,320	4800	7-p	Vestibule Lim.	10,175			
1,680	3850	4-p	Coupe	3,180	"93" 6				-----	4-p	Coupe De Luxe	1,995	4800	7-p	% Limousine	10,175			
	3850	5-p	Sedan	3,180	(112½ in. W. B.)				-----	5-p	Spec. Sedan	1,795	4800	7-p	Cabriolet	10,175			
	-----	5-p	Spec. Sedan	3,180	2443	5-p	Sta. Sedan	895	-----	5-p	De Luxe	1,920	Standard Six						
	3850	5-p	Sedan	3,280	2584	5-p	Sedan De Luxe	1,095	-----	7-p	Sedan De Luxe	1,995	2760	3-p	Du. Roadster	\$1,125			
	-----	5-p	Sub. Sedan	3,380	PACKARD "6"				-----	5-p	Coach Brougham	1,595	2820	3-p	Sport Roadster	1,235			
	-----	7-p	Sub. Sedan	3,480	(126 in. W. B.)				-----	5-p	De Luxe	1,720	2870	5-p	Du. Phaeton	1,185			
	-----	7-p	Brougham 4 d.	3,180	3643	4-p	Roadster	\$2,785	-----	<b>"Eight"</b> (121½ in. W. B.)	-----	2950	5-p	Sport Phaeton	1,255				
	-----				3653	5-p	Touring	2,585	-----	3-p	Roadster	1,995	2945	3-p	Country Club	1,295			
	-----				3595	4-p	Sp. Touring	2,750	-----	5-p	Phaeton	1,995	2980	5-p	Coach	1,195			
	-----				3753	4-p	Coupe	2,585	-----	3-p	Coupe Roadster	2,095	3260	5-p	Sedan	1,495			
	-----				3937	5-p	Sedan	2,585	-----	3-p	De Luxe	2,220	3280	5-p	Berline	1,650			
	-----				(133 in. W. B.)				-----	4-p	Coupe De Luxe	2,320	Special Six						
	-----				3793	7-p	Touring	2,785	-----	5-p	Spec. Sedan	2,195	3360	3-p	Du. Roadster	1,395			
	-----				4043	7-p	Sedan	2,785	-----	5-p	De Luxe	2,320	3480	4-p	Sp. Roadster	1,595			
	-----				-----	5-p	Club Sedan	2,725	-----	7-p	Sedan De Luxe	2,395	3475	5-p	Du. Phaeton	1,445			
	-----				4143	7-p	Sedan Limousine	2,885	-----	5-p	Coach Brougham	1,995	3675	4-p	Victoria	1,750			
	-----				"8"				-----	5-p	De Luxe	2,120	3785	5-p	Brougham	1,695			
	-----				(136 in. W. B.)				-----	<b>ROAMER</b>	-----	3545	5-p	Coach	1,445				
	-----				4060	4-p	Runabout	3,950	-----	<b>"6-50-55" (115 in. W. B.)</b>	-----	3885	5-p	Sedan	1,895				
	-----				4090	5-p	Touring	3,750	-----	2-p	Roadster	\$1,385	3890	5-p	Berline	2,120			
	-----				4023	4-p	Sp. Touring	3,900	-----	5-p	Spec. Tourer	1,245	Big Six						
	-----				4242	4-p	Coupe	4,650	-----	2-p	Bus. Coupe	1,295	127 in. W. B.						
	-----				4528	5-p	Sedan	4,750	-----	5-p	Coupe	1,395	-----	7-p	Du. Phaeton	1,795			
	-----				-----	2-p	Coupe	5,775	-----	5-p	Sedan DeLuxe	1,595	-----	5-p	Coupe	2,045			
	-----				(143 in. W. B.)				-----	<b>"6-54-E" (118-138 in. W. B.)</b>	-----	3890	5-p	Brougham 4 d.	2,195				
	-----				4199	7-p	Touring	3,950	-----	4-p	Roadster	2,385	-----	7-p	Sedan	2,245			
	-----				-----	5-p	Club Sedan	4,890	-----	4-p	Tourer	1,985	-----	5-p	Berline	2,120			
	-----				4655	7-p	Sedan	5,000	-----	4-p	Sport	2,285	120 in. W. B.						
	-----				4710	7-p	Sedan Limousine	5,100	-----	7-p	Tourer	2,285	3505	5-p	Sport Phaeton	1,575			
	-----				PAIGE "21-24"				-----	3-p	Cabriolet	2,750	3750	5-p	Club Coupe	1,750			
	-----				3875	4-p	Phaeton	\$2,165	-----	<b>"4-75-E" (128 in. W. B.)</b>	-----	-----	5-p	Sedan	1,995				
	-----				3935	7-p	Phaeton	2,165	-----	<b>"Custom Built"</b>	-----	STUTZ							
	-----				4325	5-p	Sedan De Luxe	2,395	-----	2-p	Speedster	3,485	"6-94"						
	-----				4325	7-p	Sedan De Luxe	2,840	-----	3-p	Sport	3,285	3492	2-p	Roadster	\$2,895			
	-----				PEERLESS "6-72"				-----	4-p	Tourer	2,985	3640	5-p	Touring	2,395			
	-----				(126 in. W. B.)				-----	<b>"8-88" (138 in. W. B.)</b>	-----	3940	4-p	Coupe	3,050				
	-----				3175	5-p	Touring	\$1,895	-----	4-p	Roadster	2,750	3926	5-p	Sedan	3,050			
	-----				3425	5-p	Coupe	2,295	-----	5-p	Sport	2,750	"6-95"						
	-----				3500	5-p	Sedan	2,395	-----	5-p	Tourer	2,395	4064	5-p	Sportster	3,035			
	-----				(133 in. W. B.)				-----	7-p	Tourer	2,585	4152	7-p	Tourster	3,070			
	-----				3275	2-p	Roadster	2,195	-----	2-p	Speedster	2,985	4305	5-p	Sportbrohm.	3,785			
	-----				3300	7-p	Touring	1,995	-----	3-p	Cabriolet	2,950	4622	7-p	Suburban	3,985			
	-----				3700	7-p	Sedan	2,595	-----	5-p	Spec. Sedan	3,285	4675	7-p	Berline	4,085			
	-----				3825	7-p	Limousine	2,695	-----	7-p	Sedan (136-in. W. B.)	3,185	VELIE						
	-----				"8-67"				-----	5-p	Brougham	2,785	"60"						
	-----				3950	4-p	Phaeton	2,845	-----	ROLLIN	-----	3030	4-p	Sp. Roadster	\$1,650				
	-----				3995	7-p	Phaeton	2,895	-----	<b>"G-2"</b>	-----	2840	5-p	Touring	1,275				
	-----				4300	5-p	Town Brougham	3,495	-----	2405	3-p	Coupe Roadster	3025	5-p	Club Phaeton	1,450			
	-----				4310	5-p	Town Sedan	3,495	-----	2595	5-p	Brougham	3025	2-p	Coupe	1,425			
	-----				4400	7-p	Sub. Sedan	3,595	-----	2575	5-p	Sedan	3150	4-p	Coupe	1,825			
	-----				4525	7-p	Berline Lim.	3,795	-----	ROLLS-ROYCE	-----	3340	5-p	Royal Sedan	1,825				
	-----				4100	4-p	Victoria Coupe	3,245	-----	Chassis	††	3083	5-p	Coach 2 d.	1,425				
	-----				4150	5-p	Sub. Coupe	3,295	-----	††Manufacturers do not quote list prices.	-----	3005	5-p	Coach 4 d.	1,450				
	-----				PIERCE-ARROW				-----	STANLEY	-----	-----	5-p	Brougham	1,495				
	-----				"33"				-----	<b>"252"</b>	-----	WILLS SAINT-CLAIRE							
	-----				4350	2-p	Runabout	\$5,250	-----	3400	5-p	Phaeton	\$2,500	"B-68"					
	-----				4500	4-p	Touring	5,250	-----	3800	5-p	Sedan	3,300	(127 in. W. B.)					
	-----				4590	7-p	Touring	5,250	-----	STAR				3500	7-p	Phaeton	\$2,885		
	-----				4730	3-p	Coupe	6,800	-----	2-p	Roadster	\$525	3495	4-p	Coupe	3,785			
	-----				4800	4-p	Sedan	6,900	-----	5-p	Touring	525	3520	5-p	Sedan	3,885			
	-----				4960	7-p	Sedan	7,000	-----	2-p	Coupe	595	3635	7-p	Sedan	3,900			
	-----				4750	4-p	Coupe Sedan	6,900	-----	5-p	Coach	695	3570	5-p	Brougham 4 d.	3,900			
	-----				4730	6-p	Brougham	6,800	-----	5-p	Sedan 4 d.	775	3710	7-p	Limousine	4,085			
	-----				4850	7-p	Limousine	7,000	-----	Standard "6"	-----	-----	7-p	Town Car	5,500				
	-----				5060	7-p	Enclosed Lim.	7,000	-----	Coupester	745	"C-68" (Custom Built 127 in. W. B.)							
	-----				4780	7-p	French Lim.	7,000	-----	Coupe	820	3350	4-p	Roadster	3,300				
	-----				4730	6-p	Landaulet	7,000	-----	5-p	Coach	880	3500	4-p	Cab. Roadster	3,785			
	-----				"80"				-----	STEARN'S-KNIGHT	-----	3450	5-p	Gray Goose Trav.	3,300				
	-----				3205	2-p	Roadster	2,895	-----	<b>"B" (4)</b>	-----	3520	5-p	Sedan	4,085				
	-----				3260	4-p	Phaeton	3,095	-----	4-p	Coupe Roadster	\$1,795	3635	7-p	Sedan	4,100			
	-----				3385	7-p	Phaeton	2,895	-----	5-p	Touring	1,595	3570	5-p	Brougham	4,100			
	-----				3430	5-p	Coach	3,150	-----	4250	5-p	Sedan	2,095	3710	7-p	Limousine	4,285		
	-----				3365	4-p	Coupe Landau	3,820	-----	3750	4-p	Coupe Brougham	1,895	"W-6" (127 in. W. B.)					
	-----				3335	4-p	Coupe	3,695	-----	-----	5-p	Brougham	2,095	3410	4-p	Roadster	2,800		
	-----				3440	5-p	Sedan	3,895	-----	<b>"S" (6)</b>	-----	3550	5-p	Gray Goose Trav.	2,800				
	-----				3560	7-p	Sedan	3,995	-----	3775	5-p	Touring	1,875	3580	4-p	Cab. Roadster	3,285		
	-----				3615	7-p	Enc. Drive Lim.	4,045	-----	3850	5-p	Touring	2,495	3500	7-p	Touring	2,385		
	-----				REO "T-6"				-----	4025	2-p	Coupe	3,395	3630	4-p	Coupe	2,985		
	-----				3350	2-p	Roadster	\$1,665	-----	4275	4-p	Sp. Coupe	3,150	3630	5-p	Brougham	3,180		
	-----				3182	5-p	Sp. Touring	1,395	-----	3950	5-p	Sedan	2,945	3680	5-p	Sedan	3,180		
	-----				3350	2-p	Coupe	1,495	-----	4275	7-p	Sp. Brougham	3,395	3775	7-p	Sedan	3,285		
	-----				3400	5-p	Sedan 4 d.	1,565	-----	-----	4-p	Sp. Sedan	3,395	3835	7-p	Limousine	3,385		
	-----				3400	5-p	Spec. Sedan	1,745	-----	STEARN'S-KNIGHT	-----	"W-6 Vogue" (127 in. W. B.)							
	-----				REVERE "25"				-----	<b>"B" (4)</b>	-----	3770	5-p	Brougham	\$3,400				
	-----				3900	2-p	Sp. Roadster	\$2,750	-----	4-p	Coupe Roadster	\$1,795	3765	5-p	Sedan	3,400			
	-----				3975	4-p	Speedster	2,750	-----	5-p	Touring	1,875	3905	7-p	Sedan	3,500			
	-----				4050	5-p	Touring	2,750	-----	3550	2-p	Sport Coupe	2,185	3975	7-p	Limousine	3,600		
	-----				4300	5-p	Sedan	3,800	-----	3650	5-p	Coupe Brougham	2,285	WILLYS-KNIGHT					
	-----				"M"				-----	3700	5-p	Sedan	2,475	"65"					
	-----				3700	2-p	Roadster	3,200	-----	3700	5-p	Brougham	2,475	2900	5-p	Touring	\$1,190		
	-----				3800	4-p	Sportster	3,200	-----	-----	5-p	Brough. Sedan	2,480	2955	3-p	Coupe	1,390		
	-----				3970	5-p	Touring	3,200	-----	STEARN'S-KNIGHT	-----	4200	2-p	Roadster	\$3,150	3090	5-p	Sedan	1,450
	-----				4400	5-p	Sedan	4,000	-----	<b>"C" (6)</b>	-----	4400	7-p	Touring	7,500	3062	5-p	Coupe Sedan	1,390
	-----				OLDSMOBILE "30"				-----	3525	4-p	Touring	1,875	3119	5-p	Brougham	1,590		
	-----				2235	5-p	Touring	\$875	-----	3540	5-p	Touring	1,875	"66"					
	-----				2445	5-p	Sp. Touring	980	-----	3550	2-p	Sport Coupe	2,185	3323	2-p	Roadster	1,750		
	-----				2460	5-p	Coach	950	-----	3650	5-p	Coupe Brougham	2,285	3395	5-p	Touring	1,750		
	-----				2660	5-p	De Luxe Coach	1,040	-----	3700	5-p	Sedan	2,475	-----	7-p	Touring	1,950		
	-----				2585	5-p	Sedan	1,025	-----	-----									



# There Is No Substitute for Safety



## That's Why the Public Prefers Lockheeds

Today, thousands of motor car owners are determined to select their next car from among the many equipped with Lockheed Hydraulic Four-Wheel Brakes.

They realize that they cannot afford to compromise with maximum safety — and that Lockheed Hydraulics alone assure the maximum braking efficiency which provides such safety.

This superiority of Lockheeds stands out as clearly as the noon-day sun.

For in Lockheeds — and in Lockheeds alone — the pressure must be transmitted *equally* to each of the four brakes, *because of the hydraulic principle.*

Because of the hydraulic principle, Lockheeds, and Lockheeds alone, assure *maximum* safety and *minimum* skidding; *maximum* simplicity and

*minimum* service attention; *maximum* stopping efficiency and *minimum* effort in application.

Automobile manufacturers and engineers appreciate the greater efficiency and safety of, and the public's preference for, Lockheeds. That is why Lockheed Hydraulics are factory equipment on the better-value cars in every price field, from well under \$1000 to the most expensive.

Nation-wide special service on Lockheed Hydraulic Four-Wheel Brakes is at your command in strategically located cities through the Wagner Electric Corporation. Each of these service centers carries a complete stock of Lockheed parts and is equipped with men and machinery that assure expert service.

HYDRAULIC BRAKE COMPANY, DETROIT, MICHIGAN

*The Answer*  
**LOCKHEED**  
 Four Wheel Brakes  
**HYDRAULIC**

WIS—Wagon  
 Z—Zephyr  
 Zar—Zephyr

X—Sleeve valve  
 Y—Yes

Q—Quarter elliptic  
 R—Reciprocating  
 S—Semi-elliptic  
 Sep—Separate

OC—Oil with wick feed  
 P—Single plate  
 Pr—Pressure gun

I—Internal four wheels  
 I-R—Internal rear, wheels  
 I-R—Three-quarter elliptic  
 K—One

E-R—External rear  
 E-R—External rear, wheels  
 E-R—Full floating  
 F1—Full floating

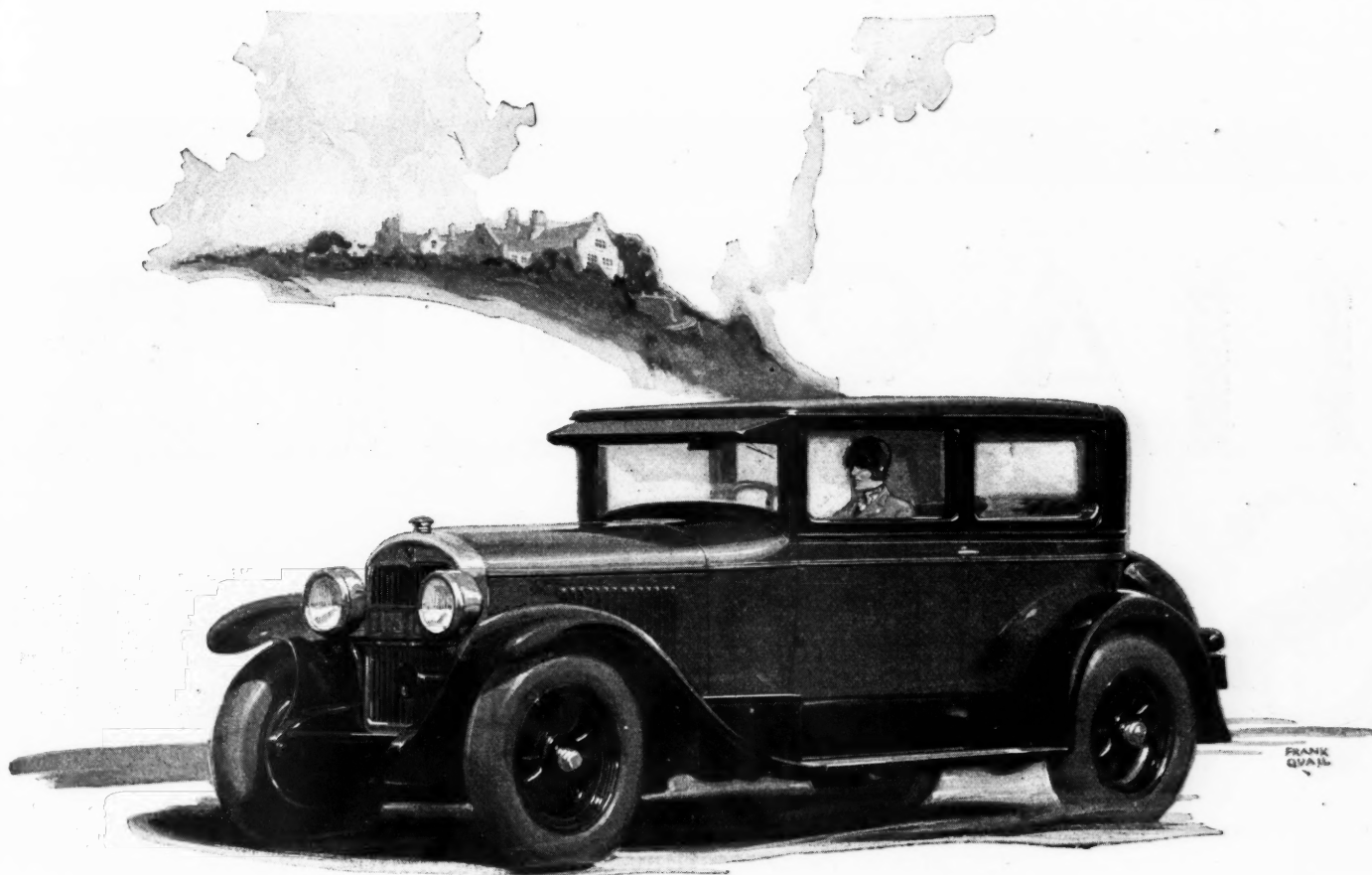
A1—Aluminum  
 B—Semi-steel  
 B-F—Both, internal and  
 external, four wheels  
 CH—Chain

(Continued on page 48)

(This list comprises cars distributed on a national basis)

MAKE AND MODEL										ENGINE										ELECTRICAL SYSTEM										REAR AXLE				BRAKES		Steering Gear—Make		Rear Springs—Type and Length		Chassis Lubrication—Type and Make		ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS	
Wheel Base (Inches)	Tire Size	Decimals—Balloons	Make and Model	Number of Cyls.	Rated H.P.	Valve Arrangement	Camshaft Drive	Crankcase Inter. or Sep.	Piston Material	No. Main Bear.	Oiling System	Oil Cleaner?	Cooling System	Thermostat?	Carburetor	Air Cleaner?	Ignition System	Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universals—Type and Make	Type and Make	Gear Ratio	Foot—Type and Location	Hand—Type and Location	Wheel Type (4 = Optional)	Own.	Steering Gear—Make	Length	Chassis Lubrication—Type and Make	Abbreviations—Names of Mfrs. of Stock Parts												
74	32x6 20	136	Marmen.....	74	6-33x45 1/2	33.8	340	I	He.	3	P	F	Pu.	N	Str.	N	Delco	Delco	D.Own.	Own.	m-Spl.	1/2	Var.	E-R	E-T	M*	Own.	0-45	M-Bo	A-K—Atwater Kent A-L—Auto-Lite Ad—Adams Al—Alumite Ans—Ansted B&B—Borg & Beck B&S—Barnes & Spence B&W—Barnes & Wainwright B&L—Ball & Ball B&C—Barnes & Co. B&E—Barnes & Edwards B&J—Barnes & Johnson B&K—Barnes & Kline B&L—Barnes & Little B&M—Barnes & Mott B&N—Barnes & Norton B&O—Barnes & O'Neil B&P—Barnes & Phillips B&R—Barnes & Rogers B&S—Barnes & Smith B&T—Barnes & Thompson B&V—Barnes & Vetter B&W—Barnes & Wainwright B&X—Barnes & Xerox B&Y—Barnes & Young B&Z—Barnes & Ziegler B&AA—Barnes & Anderson B&AB—Barnes & Armstrong B&AC—Barnes & Ayres B&AD—Barnes & Davidson B&AE—Barnes & Edwards B&AF—Barnes & Fisher B&AG—Barnes & Galt B&AH—Barnes & Hall B&AI—Barnes & International B&AJ—Barnes & Jackson B&AK—Barnes & Keith B&AL—Barnes & Lester B&AM—Barnes & Mott B&AN—Barnes & Norton B&AO—Barnes & O'Neil B&AP—Barnes & Phillips B&AQ—Barnes & Quinn B&AR—Barnes & Rogers B&AS—Barnes & Smith B&AT—Barnes & Thompson B&AU—Barnes & Underhill B&AV—Barnes & Vetter B&AW—Barnes & Wainwright B&AX—Barnes & Xerox B&AY—Barnes & Young B&AZ—Barnes & Ziegler B&BA—Barnes & Anderson B&BB—Barnes & Barnes B&BC—Barnes & Barnes B&BD—Barnes & Barnes B&BE—Barnes & Barnes B&BF—Barnes & Barnes B&BG—Barnes & Barnes B&BH—Barnes & Barnes B&BI—Barnes & Barnes B&BJ—Barnes & Barnes B&BK—Barnes & Barnes B&BL—Barnes & Barnes B&BM—Barnes & Barnes B&BN—Barnes & Barnes B&BO—Barnes & Barnes B&BP—Barnes & Barnes B&BQ—Barnes & Barnes B&BR—Barnes & Barnes B&BS—Barnes & Barnes B&BT—Barnes & Barnes B&BU—Barnes & Barnes B&BV—Barnes & Barnes B&BW—Barnes & Barnes B&BX—Barnes & Barnes B&BY—Barnes & Barnes B&BZ—Barnes & Barnes B&BA—Barnes & Barnes B&BB—Barnes & Barnes B&BC—Barnes & Barnes B&BD—Barnes & Barnes B&BE—Barnes & Barnes B&BF—Barnes & Barnes B&BG—Barnes & Barnes B&BH—Barnes & Barnes B&BI—Barnes & Barnes B&BJ—Barnes & Barnes B&BK—Barnes & Barnes B&BL—Barnes & Barnes B&BM—Barnes & Barnes B&BN—Barnes & Barnes B&BO—Barnes & Barnes B&BP—Barnes & Barnes B&BQ—Barnes & Barnes B&BR—Barnes & Barnes B&BS—Barnes & Barnes B&BT—Barnes & Barnes B&BU—Barnes & Barnes B&BV—Barnes & Barnes B&BW—Barnes & Barnes B&BX—Barnes & Barnes B&BY—Barnes & Barnes B&BZ—Barnes & Barnes B&BA—Barnes & Barnes B&BB—Barnes & Barnes B&BC—Barnes & Barnes B&BD—Barnes & Barnes B&BE—Barnes & Barnes B&BF—Barnes & Barnes B&BG—Barnes & Barnes B&BH—Barnes & Barnes B&BI—Barnes & Barnes B&BJ—Barnes & Barnes B&BK—Barnes & Barnes B&BL—Barnes & Barnes B&BM—Barnes & Barnes B&BN—Barnes & Barnes B&BO—Barnes & Barnes B&BP—Barnes & Barnes B&BQ—Barnes & Barnes B&BR—Barnes & Barnes B&BS—Barnes & Barnes B&BT—Barnes & Barnes B&BU—Barnes & Barnes B&BV—Barnes & Barnes B&BW—Barnes & Barnes B&BX—Barnes & Barnes B&BY—Barnes & Barnes B&BZ—Barnes & Barnes B&BA—Barnes & Barnes B&BB—Barnes & Barnes B&BC—Barnes & Barnes B&BD—Barnes & Barnes B&BE—Barnes & Barnes B&BF—Barnes & Barnes B&BG—Barnes & Barnes B&BH—Barnes & Barnes B&BI—Barnes & Barnes B&BJ—Barnes & Barnes B&BK—Barnes & Barnes B&BL—Barnes & Barnes B&BM—Barnes & Barnes B&BN—Barnes & Barnes B&BO—Barnes & Barnes B&BP—Barnes & Barnes B&BQ—Barnes & Barnes B&BR—Barnes & Barnes B&BS—Barnes & Barnes B&BT—Barnes & Barnes B&BU—Barnes & Barnes B&BV—Barnes & Barnes 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**KEY TO SYMBOLS**  
 —At extra cost  
 †—Balloons at extra cost  
 1/2—Semi-floating  
 3/4—Three-quarter floating  
 A—Air  
 Al—Aluminum  
 B—Semi-steel  
 B-F—Both internal and external four wheels  
 Ch—Chain



## Once again, all America nominates Cadillac supreme

With the new 90-degree Cadillac, all bounds of the previous Cadillac clientele have been overswept.

It is as though the country were sitting as a great political convention, voting on motor car candidates for first preference, with the new Cadillac nominated by acclamation.

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To imagine quality finer than this new Cadillac is beyond human grasp.

To conceive a motoring thrill or motoring luxury beyond its soaring capacity is to tread the realm of the improbable.

Inevitably Cadillac will be your choice among all fine cars if you will submit yourself to the spell of its glorious action on the road.



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Ontario.

# New 90 degree C A D I L L A C

DIVISION OF GENERAL MOTORS CORPORATION

# HASSLER Stabilizer

**H**ASSLER STABILIZERS have won nation-wide approval because they embody absolutely NEW principles especially developed to control the unusually sensitive action of the Balloon Tire, and the softer, more resilient car springs.

Here are a combination of advantages which you can get ONLY in Hassler Stabilizers:

Made for  
Buick  
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Dodge  
Essex  
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Hudson  
and  
Overland  
Motor Cars



## Smooth Friction

gives you a velvety ride—a new sensation in motoring comfort.

## Instantaneous Action

controls even the little bumps and bothersome “jiggles.”

## No Broken Straps

because the flexible belt does none of the work—it acts as a connecting belt only.

## Easy Lubrication

—an exclusive Hassler feature. Each Stabilizer equipped with an Alemite-Zerk fitting.

## Sealed Construction

Dirt and grit and other destructive elements positively cannot work into the case and destroy the working mechanism.

## No Rattles or Grunts

because here at last is a stabilizing device that can be lubricated.

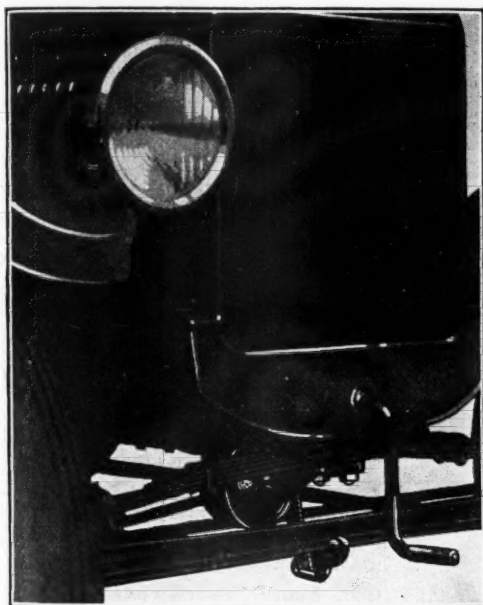
## Simple Installation

no adjustments are necessary. All adjustments are made AT THE FACTORY.

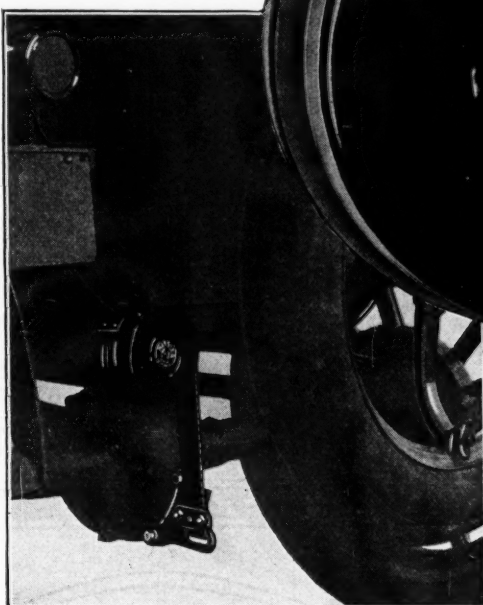
## Popular Price

made possible by big volume production in America's greatest Exclusive Shock Absorber Factories.

## Robert H. Hassler, Inc.



Front Unit—Improved Ford Car



Rear Unit—Improved Ford Car

## Simple Installation for the Improved Ford

### Two Unit Installations for All Improved Ford Models

**O**NLY two units are required, this means **ECONOMY** for the Ford owner as well as **EASY INSTALLATION**.

As is the case with Hassler Stabilizers for other makes of Cars—

**ALL ADJUSTMENTS ARE MADE AT THE FACTORY.**

Positive checking of the rebound; quick, instantaneous action, and every other feature which has given Hasslers preference on **OTHER** cars, make them ideal for the Improved Ford Car.

Over two million owners of the old type of Ford Car rode on Hasslers in greater comfort and economy.

Owners of the Improved Ford Car

are equally enthusiastic about this newer Hassler

—especially engineered to meet the newer motoring conditions.

It is, unquestionably, the greatest engineering triumph of the Hassler Organization,

—the quickest, surest checking of the rebound

—yet without any “jerks” or “jiggles.”

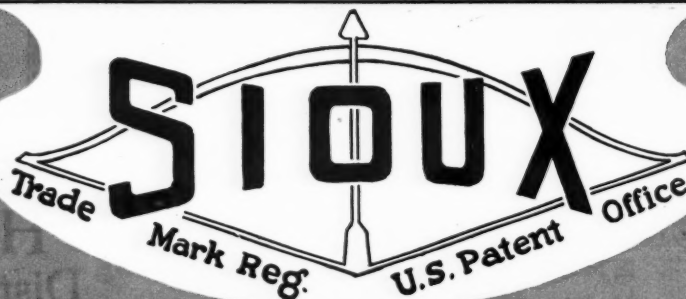
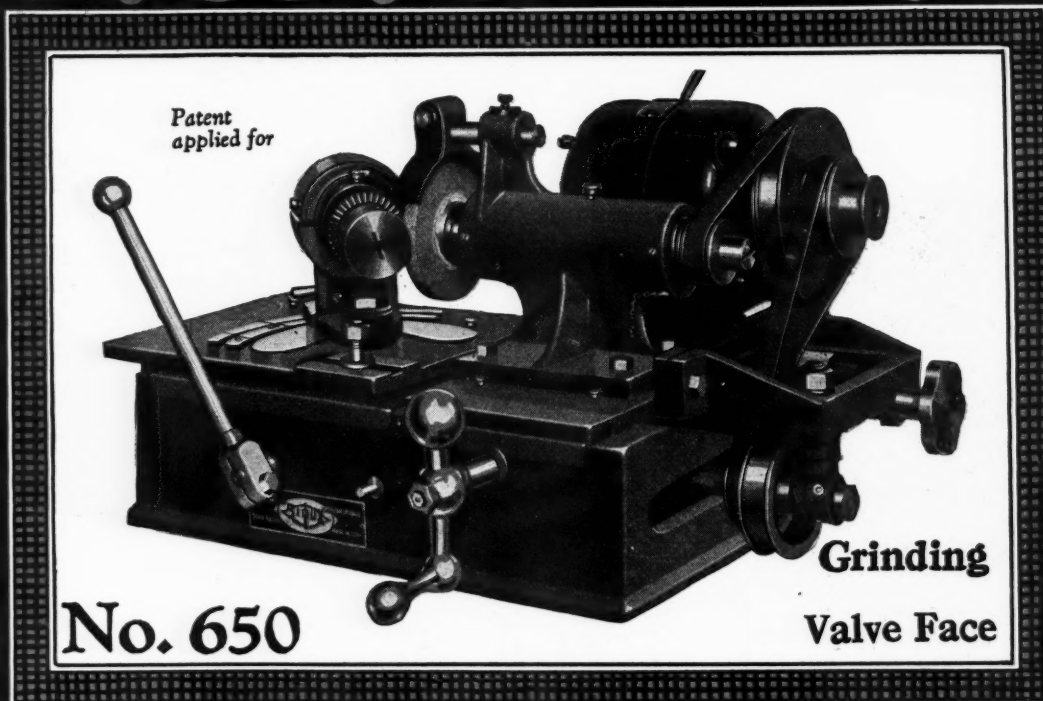
Each model is especially engineered to give the best results for the particular car for which it is made. Hence the Hassler Stabilizer for the Improved Ford Car is the **BEST** Stabilizing device which a Ford owner can use.

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have their Offices in every recognized automotive distributing center—Dealers: get in touch with your nearest Hassler Distributor for full details about the Hassler Stabilizer and its great money-making proposition.

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# A new General Motors Six at a price of nation-wide appeal



## *To the Automobile Dealers of America*

**T**HROUGH the Oakland Division, General Motors will shortly announce an entirely new six-cylinder automobile.

This newest member of a famous family will be the fruit of the resources, engineering skill and manufacturing experience gained by General Motors in more than seventeen years of leadership.

It will combine elements of appearance, performance, and engineering design which will win for it immediate public acceptance. Its price will be such as to have a nation-wide appeal.

It will be built by Oakland and distributed as companion to the present Oakland Six.

This double franchise promises to become one of the most profitable in the industry.

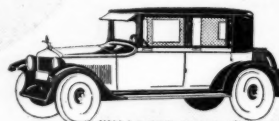
Every automobile dealer in America—regardless of size, location or present affiliation—is invited to write at once for complete details. Address Oakland Motor Car Company, Pontiac, Michigan.

# Standard on these leading cars!

The K-S Telegage has been adopted as standard equipment on the following well-known cars—comprising one out of every three made in America today selling for \$1,000 or over.



FLINT



WILLS STE. CLAIRE 8



PAIGE

NASH  
ADVANCED 6

WILLS STE. CLAIRE 6



STUDEBAKER



WILLYS KNIGHT 4



\*OLDSMOBILE



\*OAKLAND



WILLYS KNIGHT 6

## Look Over This List

and think what it means to the car dealers. Of all cars selling for \$1,000 or over, one out of three is equipped by the makers with the K-S Telegage.

There is today a motor car in every price class equipped with this popular gauge. If you are handling a car not equipped with the Telegage, don't let that endanger your sale. The Telegage will make any car more saleable—and increase your profits.

Also on Reo Sedan Bus    Mason Road King Bus  
Ruggles Bus    Commerce Bus

\*Standard equipment on deluxe models; optional equipment on other models.

## Your This

There are a few small, but important things that wise motorists insist on when buying a new car—and just now the one thing that motorists are talking about is the K-S Telegage—the gauge on the dash, that tells at a glance the exact number of gallons in the fuel tank.

Only two years ago, one or two far-sighted car makers adopted the K-S Telegage as standard equipment. Today twelve famous cars have this equipment as standard, and more will soon be announced.

Automotive engineers have long recognized that the gauge on the tank at the rear must go. Now they recognize that only the Telegage completely answers the need of the motorist for a gauge that will stand as an unfailing sentinel to record everything that he wants to know about his gasoline supply.

Car dealers, realizing this demand, are installing the K-S Telegage on cars they sell that do not carry it as standard equipment. Thus they satisfy their customer, avoid any unpleasant comparisons that might lose the sale, and make a profit on the instrument itself.

## An Important Price Reduction

Now that both the public and leading car makers have recognized the importance of the K-S Telegage and through increased demand has greatly increased production, the price has been correspondingly reduced. Starting at \$14.00 it was first lowered to \$10.00. Now, with increased production, it is reduced still further. Any motorist can now buy the K-S Telegage from his dealer for..... **\$8.50**

Installation is a simple matter, and can be done by a mechanic of ordinary experience in one and one-half hours. Directions sent with each instrument.

### Our National Advertising

reaches millions of America's most prosperous motorists. Big space, half pages and full pages, will appear continuously in the Saturday Evening Post, beginning with October 24th.



# Customers Now Demand Proven Dash Gauge

The remarkable way in which the K-S Telegage has taken the motoring public by storm opens up a wonderful sales opportunity to the live dealer.

If you are a car dealer, put it on your cars to make them more saleable.

If you service cars now in use, you can easily convince the owners that they need the Telegage.

If you have an accessory department, give a leading position in it to the Telegage. You will find it one of the most popular items in your line.

The stage is set for Telegage dealers to make big profits. Hundreds of thousands of cars are now equipped with the Telegage. Leading automotive engineers have endorsed it. Motorists are talking about it, and will talk more when they see the big space advertising in the Saturday Evening Post starting October 24th.

### Ready to Install on These Leading Cars

There is a model of the Telegage for many popular makes of cars. Listed below are models now ready for immediate shipment.

Dodge 20-26	Olds-6 25-26	Nash Special-6 25
Hudson 21-26	Oakland-6 24-26	Nash Special-6 26
Jewett 22-25	Reo 23-26	Overland-6 All
	Flint-40 24-25	

Buick Standard-6 All; Master-6 24-26

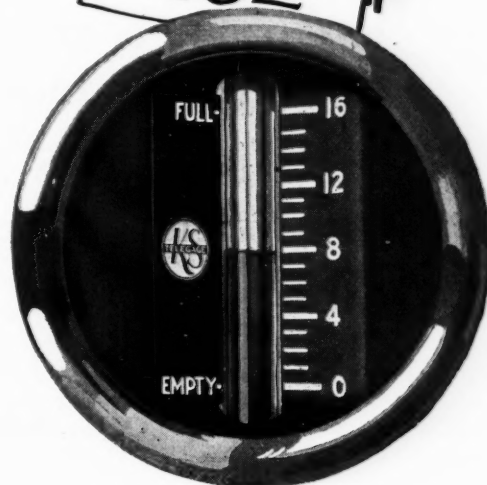
Every dealer should write at once for terms, prices, and discounts. The Telegage means not only increased profits, but better pleased customers.

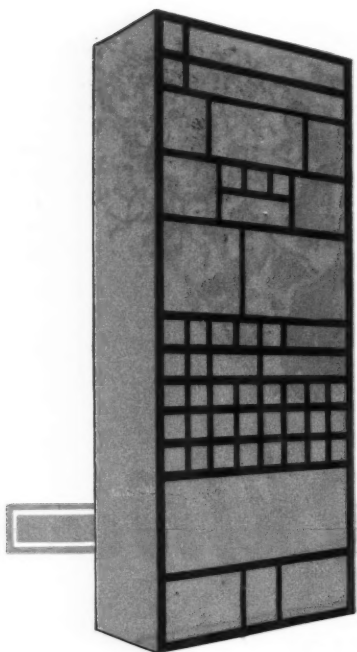
## KING-SEELEY CORPORATION

ANN ARBOR

MICHIGAN

Now  
**\$8.50**  
FORMERLY  
**\$10.00**





## Lower prices and greater capacity in Ford LAPS Systems

**N**EW LAPS Systems store and merchandise Ford Parts more efficiently than ever. Prices and shipping weights are lower but capacity is greater. This means increased economy and more sales in the Parts Department.

New LAPS Systems have more bins—less weight; more convenience—less bulk; more value—lower prices.

You need a LAPS System to handle Ford Parts at a profit. Get details now from

**DAVID LUPTON'S SONS COMPANY**  
PHILADELPHIA

Sales Office: 2631 Woodward Ave., Detroit

*Sole manufacturers of Lupton Auto Parts Storage Systems*


A large, stylized logo for 'LAPS'. The letters are bold and blocky. Two horizontal lines, one above and one below the letters, pass through them, creating a sense of depth and structure. The logo is positioned at the bottom right of the page.

*LAPS is the name by which 5000 and  
more successful auto dealers know  
Lupton Auto Parts Storage Systems*

# "An Unusual Sales Proposition"

**SERVICE AND QUALITY**

**RADIO SERVICE**  
CONSTRUCTION  
REPAIRING  
ASSEMBLING  
TESTING  
WORKSHOP



**236 GENESEE STREET**  
**UTICA, N.Y.**

**BUILT SETS**  
BLUE PRINTS  
PARTS  
TUBES  
BATTERIES  
ACCESSORIES

August, 22, 1925.

Mr. R. G. Lees,  
Stewart Warner Radio Distributors,  
Utica, N.Y.

Dear Sir:

I wish to report to you the success I had in testing your sixty-five dollar Model Stewart Warner radio set.

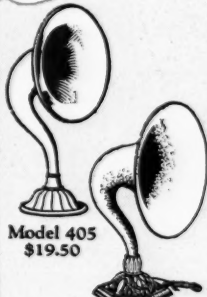
Being quite interested in the new idea of calibrating the center dial I tested it for accuracy and although the night was bad I managed through heavy static, to tune in nine stations which did not vary over one point on the dial on my station. This was quite surprising and knowing that KPO and KGO California were on that night at midnight our time, I got up and after about a half hour tuned them both in almost on the dot on the dial calibration and was able to get the announcements of both with the head phones.

This sort of demonstration this time of the year has satisfied me to the extent that I am sold on Stewart Warner sets as an unusual sales proposition and we feel that we can do a job with it over any similar product on the market regardless of the fact that it is a new set on the market.


Thanking you for your tenacious efforts in trying to sell us on your product and trusting we will all enjoy a prosperous season as a result, I am,

Very truly yours,  
A. G. Schrock  
Gen'l Mgr. & Treas.


AES/JH




Model 405  
\$19.50




Model 300—\$65.00




Model 325—\$80.00




Model 400  
\$25.00




Model 305—\$95.00



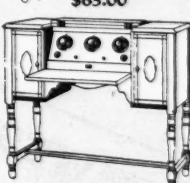
Model 501A—\$2.50



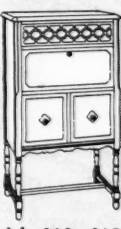
Model 410  
Console Table  
\$65.00



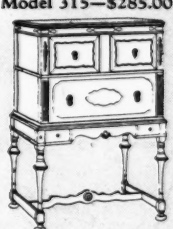
Model 505  
Console Table  
\$22.50



Model 315—\$285.00



Model 310—\$175.00



Model 320—\$450.00

**Y**OU can't imagine a more enthusiastic group than our Stewart-Warner radio dealers. And why shouldn't they be enthusiastic! They tried the sets under adverse summer conditions and came through with flying colors in every case.

The wonderful quality of tone, the extreme selectivity, the strong volume, the accuracy and simplicity of tuning gives them every selling advantage. And back of all is the Stewart-Warner reputation, which in the opinion of many is in itself sufficient reason to buy a Stewart-Warner Matched-Unit Radio.

Over ten million people are using Stewart-Warner products today and know Stewart-Warner quality. Soon over ten million people will be talking about the wonderful job Stewart-Warner has accomplished in Radio. Will you be reaping the benefit in your locality?

Our "dealer-made" plan guarantees you absolute protection. There are no other authorized Stewart-Warner dealers in your vicinity. You deal directly with Stewart-Warner Branches—we have no jobbers. And there will be no "bargains" in Stewart-Warner Radio.

Our national advertising is already creating a big demand.

If you are interested in selling a high grade line that will give you real profit, prestige, protection and permanence, and furnish your customers with complete radio satisfaction, write for the Stewart-Warner proposition today!

Address: Stewart-Warner Speedometer Corporation, 1828 Diversey Parkway, Chicago, Ill.

Tune in  
Stewart-Warner  
Programs

Station WBBM  
226 Meters

TIME SCHEDULE  
OPPOSITE

## Stewart-Warner

# Matched-Unit Radio

**INSTRUMENTS    TUBES    REPRODUCERS    ACCESSORIES**

Mon. • 6-7 p. m.  
Tues. • 10-12 p. m.  
Wed. • 12-2 a. m.  
Thur. • 9-10 p. m.  
Fri. • 8-10 p. m.  
Sat. • 11-1 a. m.  
Sun. • 4-6 p. m.  
CHICAGO TIME

COPYRIGHT 1925 BY S. W. S. COR'N

# KISS

## Enthusiastic Reception Price

Form 1204

CLASS OF SERVICE	SYMBOL
TELEGRAM	BLUE
DAY LETTER	WITE
NIGHT MESSAGE	N.L.
NIGHT LETTER	N.L.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT      GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

RECEIVED AT  
4C RU 72 NL

NETWORK NY SEPT 29 1925

KISSEL MOTOR CAR CO      HARTFORD WIS

CONGRATULATIONS ON YOUR SALES TELEGRAM RECD THIS MORNING PERIOD DO NOT KNOW WHAT WE SHALL SAY TO YOU IF YOU CONTINUE TO PLEASANTLY SURPRISE US IN A MERCHANDISING WAY AS YOU HAVE THIS YEAR LIKE YOU ALWAYS HAVE DONE IN A PRODUCTION WAY PERIOD YOUR POLICY SHOULD MAKE A MOST GENERAL FAVORABLE INTERNATIONAL IMPRESSION ON ALL DEALERS AND THE PUBLIC PERIOD EVERY ONE OF US MUST NOW GO HOT FOOT TO IT

SIDNEY B. BOWMAN      824A SEPT 30 1925

Form 1204

CLASS OF SERVICE	SYMBOL
TELEGRAM	BLUE
DAY LETTER	WITE
NIGHT MESSAGE	N.L.
NIGHT LETTER	N.L.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT      GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

RECEIVED AT  
18 CD 37

BOSTON MASS 245P OCT 22 1925

KISSEL MOTOR CAR COMPANY      HARTFORD WIS

PRICE REDUCTION GREAT NEWS STOP ALREADY FEELING THE EFFECT IN INCREASED SALES STOP KISSEL NOW ONE OF MOST TALKED OF CARS IN BOSTON STOP YOUR MERCHANDISING POLICY IS HELPING US IN A BIG WAY WATCH US GO

W H GLEASON      159P

Kissel's sales are climbing still higher! Lower prices have increased the activity of Kissel dealers everywhere! And from one end of the country to the other Kissel is adding new dealers. KISSEL MOTOR CAR CO. Hartford, Wisconsin

Form 1204

CLASS OF SERVICE	SYMBOL
TELEGRAM	BLUE
DAY LETTER	WITE
NIGHT MESSAGE	N.L.
NIGHT LETTER	N.L.

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RECEIVED AT  
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W H GLEASON      159P

# SEIL

## Greets Kissel's Latest Reduction

The Six, formerly \$1895  
F. O. B. Hartford

Now **\$1695**

The Straight Eight

Now **\$2095**

**WESTERN UNION TELEGRAM**

Form 1204

CLASS OF SERVICE SYMBOL

TELEGRAM	BLUE
DAY LETTER	BLUE
NIGHT MESSAGE	BLUE
NIGHT LETTER	BLUE

If none of these three symbols appears after the hour (number of words) this is a telegram. Other symbols (as indicated by the Western Union symbol) are used for other purposes.

RECEIVED AT

LOS ANGELES CALIF OCT 22 1925 135P

NEWCOMB CARLTON, PRESIDENT

GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

HARTFORD WIS

KISSEL MOTOR CAR COMPANY

OUR WHOLE ORGANIZATION CONGRATULATES YOU ON THE RECENT KISSEL PRICE ANNOUNCEMENT STOP WE HAVE HAD A GREAT KISSEL YEAR OUT HERE AND THIS LATEST NEWS INSPIRES US TO PRODUCE EVEN GREATER RESULTS STOP GET READY TO SHIP A FEW EXTRA CARLOADS OF CARS FOR LOS ANGELES

H J WURZBURGER INC.

350P

**WESTERN UNION TELEGRAM**

Form 1204

CLASS OF SERVICE SYMBOL

TELEGRAM	BLUE
DAY LETTER	BLUE
NIGHT MESSAGE	BLUE
NIGHT LETTER	BLUE

If none of these three symbols appears after the hour (number of words) this is a telegram. Other symbols (as indicated by the Western Union symbol) are used for other purposes.

RECEIVED AT

PHILADELPHIA PENN 1007A OCT 26 1925

KISSEL MOTOR CAR CO

HARTFORD WIS

AS A NEW DISTRIBUTOR WE ARE HIGHLY ENTHUSIASTIC OVER YOUR PRODUCT AND MERCHANDISING POLICY STOP THE RECENT PRICE CUT HAS PEPPED UP SALES GREATLY IN PHILADELPHIA AND VICINITY AND WE ARE DOING TWICE THE BUSINESS WE HAD HOPED TO DO ON YOUR LINE WE DONT SEE HOW WE COULD GIVE YOU ANY HIGHER RECOMMENDATION THAN THAT

LAROCHE BROS

1034A

**SATURDAY POST**  
**THE SATURDAY EVENING POST**  
 November 14, 1925



**Snap your fingers at old man winter**  
**— when you have a**  
**Perfection Heater in your car**

CLIMB into your car, slam the door, set the motor's roaring—and snap your fingers at old man winter as you drive away. You can do that if your car is equipped with a Perfection Heater. No matter how raw and cold it is outside, you'll be as cozy-warm and comfortable inside your car as you would be in front of the fire-place at home.

Why not enjoy driving this winter? Why risk your health by riding in a chilly, unheated car? It costs so little to have a Perfection Heater—from \$650 upward depending on the type you select. After installation there is no upkeep or maintenance expense.

Or, if you're buying a new car, look for the Perfection Heater in the floor. If the car you choose is not equipped have a Perfection Heater installed before delivery is made.

Our new booklet, "Summer Comfort in Winter Driving" will tell you all about the Perfection Heater—what it means in assurance of health—how it works. Send the coupon for it.

**THE PERFECTION HEATER & MFG. CO., CLEVELAND, OHIO**  
 Manufactured in Canada by Richard Wilson Canadian Company, Limited, London, Ontario  
 Makers also of that sensational development in carburetion, the Swan System; through its subsidiary The Swan Carburetor Co.

**for FORDS**  
 At last the comfort and safety of a genuine Perfection Heater are available in Ford cars. This is a new heater for any type or model Ford and costs only

**\$650**

**PERFECTION MOTOR CAR HEATERS**

SEND THIS COUPON TODAY FOR COMPLETE INFORMATION.

Name \_\_\_\_\_  
 Address \_\_\_\_\_ State \_\_\_\_\_  
 City \_\_\_\_\_ Type and Model \_\_\_\_\_  
 Make of Car \_\_\_\_\_

The Perfection Heater & Mfg. Co.  
 6545 Carnegie Ave., Cleveland, Ohio  
 Please send me your booklet "Summer Comfort in Winter Driving." Also tell me the cost of a Perfection Heater designed to make my car comfortable, and where I can have one installed.

**This advertisement appears in the Saturday Evening Post, November 14th. It is one of many in the Perfection Heater fall campaign.**

## Jack Up Your Winter Profits

**T**HE biggest Perfection winter ever! That's what this will be—judging from the enthusiastic response to Perfection advertisements like the one above. So if you want to see your winter profits mount—if you want profits to keep piling up when business is usually slow—get yourself set to meet the Perfection demand. Write, phone, or wire us today for details of the Perfection proposition. It's a winner!

**THE PERFECTION HEATER & MANUFACTURING COMPANY**  
 6545 Carnegie Avenue, Cleveland, Ohio

Makers also of that sensational development in carburetion, the Swan System; through its subsidiary The Swan Carburetor Co.

# Alligator Balloon Boot



## JOBBERS and DEALERS Are Making Money Through the Sale of ALLIGATOR SELF-VULCO BALLOON BOOTS

There is a tremendous demand for Balloon Tire Boots. Throughout the country jobbers and dealers are getting ever-increasing calls for them, but—

They must be specially and properly made to meet the particular requirements of these new tires that are gradually displacing the old standard sizes.

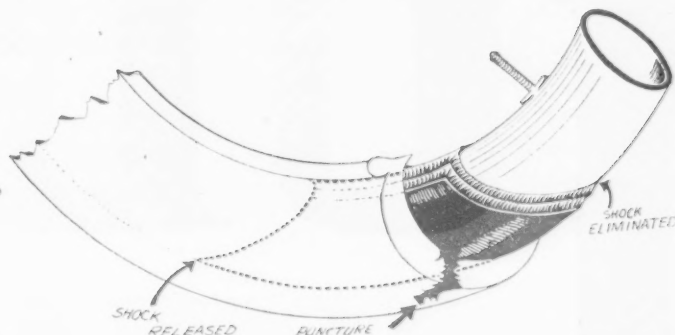
ALLIGATOR SELF-VULCO BOOTS are made for balloon tires. They cause no shock in the casing. They have a cured rubber, wear resisting surface. They are self-vulcanizing—and thoroughly protected by patents.

*Write for price list and jobbers' discounts.*

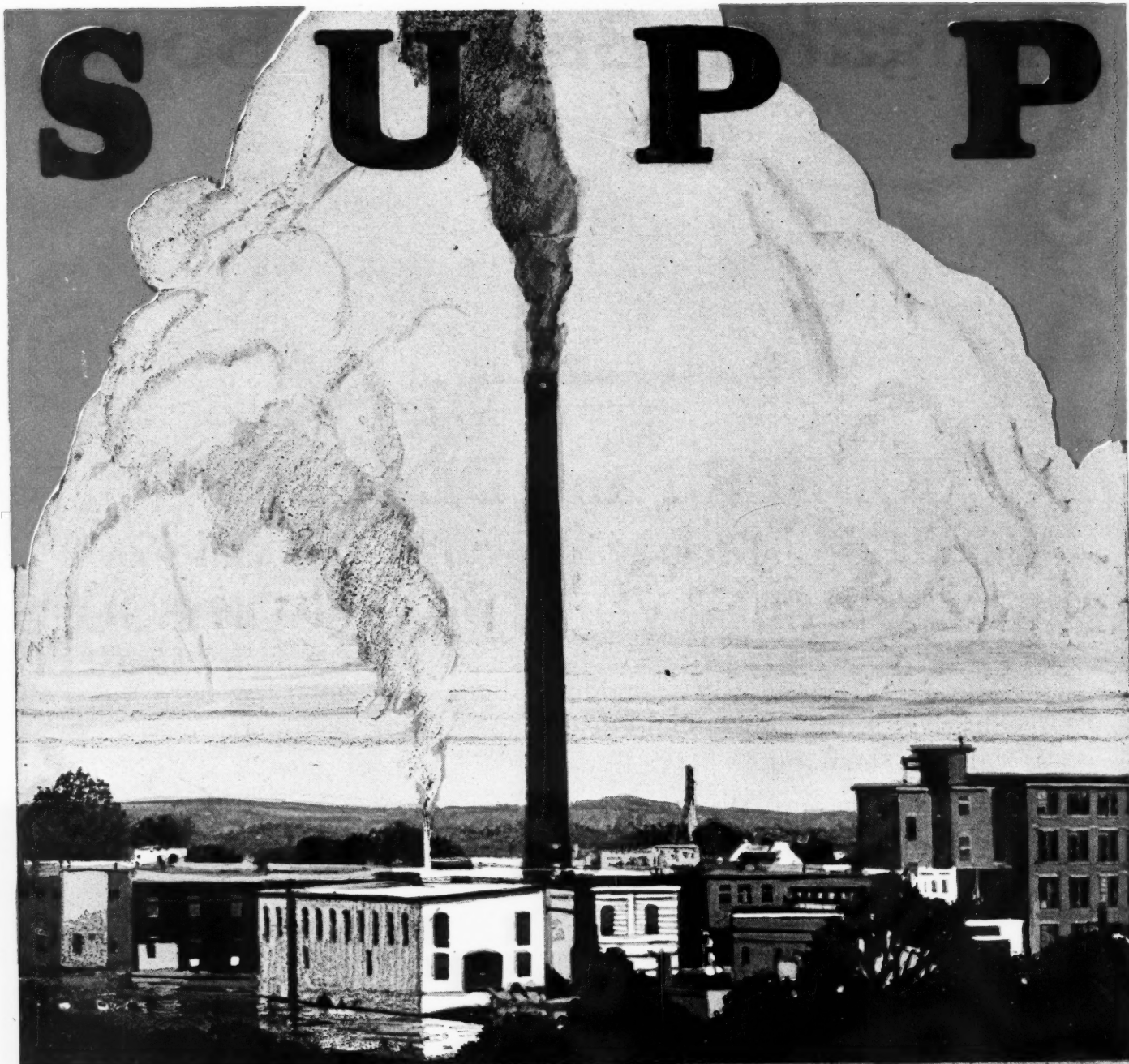
### Alligator Mfg. Co., Inc.

Oklahoma City, Oklahoma

*Investigate  
this  
money-  
making  
opportunity  
now.  
Start  
early—  
and  
profit.*



**ALLIGATOR  
Self-Vulco  
Boots**  
are also  
made for  
regular size  
tires.  
The line is  
complete.



**This is the strong New England factory that stands so firmly**

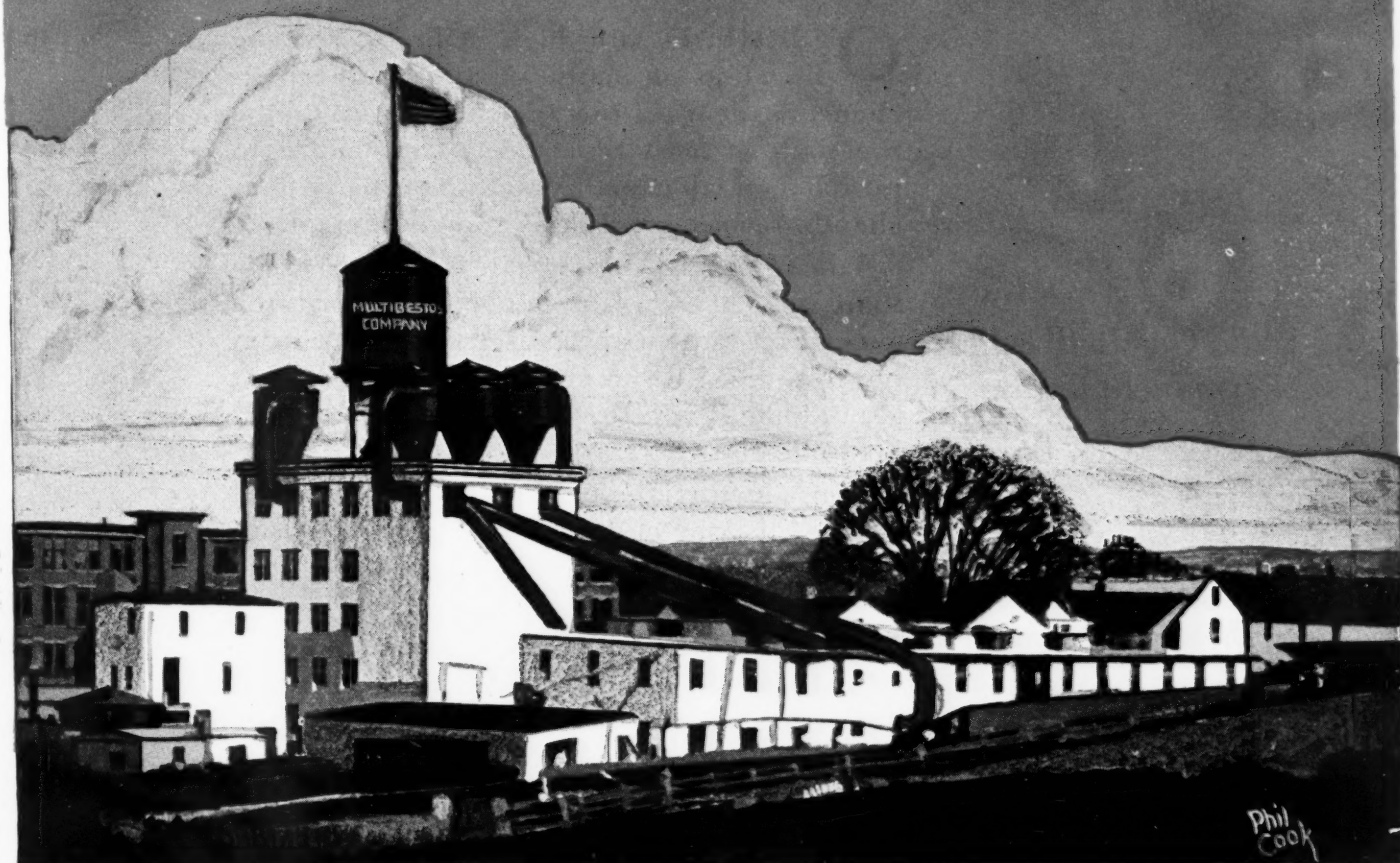
**A MULTIBESTOS QUALITY PRODUCT  
FOR EVERY BRAKE AND  
CLUTCH LINING NEED**

Multibestos BRAKE Lining  
Multibestos TAXITRUX Brake Lining  
Multibestos SPECIAL Transmission Lining for Ford Cars  
Multibestos NO-WIRE Transmission Lining for Ford Cars

**MULTI**  
**BRAKE**

REG. U. S.

# O R T !



behind both the dealer in, and the user of, Multibestos.

Multibestos CLUTCH Linings  
Multibestos LINED BRAKE SHOES for Ford Cars  
Multibestos "229" Transmission Lining for Ford Cars  
Multibestos FIBRE Transmission Lining for Ford Trucks

MULTIBESTOS COMPANY  
WALPOLE, MASS., U. S. A.

Branches: New York Chicago Detroit Nashville

# BESTOS

PAT. OFF.

# LINING

# Leadership

## —is never an Accident

**O**VERHEAD and high selling costs, the bugaboo of many an automotive merchant, result from the ancient folly of taking the path of least resistance. The failure to push dependable quality, and to properly merchandise parts, accessories and equipment.

You might sell a 25c fan belt more easily than one at 50c, but don't forget that the average customer expects as much service from the former as the latter; and when he doesn't get it, blames you for its failure and transfers his trade elsewhere.

Consequently, the necessity of having to sell and resell your customer is costly—it wastes your time, destroys good-will and makes the overhead mount.

Sell him Farran-oid Fan Belts *just once* and he will be your booster from then on. And don't forget that every booster has many friends who follow his recommendations.

Increase your turnover, multiply your profits and build good-will by recommending Farran-oid Fan Belts and the complete line of Farran-oid Quality Products. They have earned their Leadership.

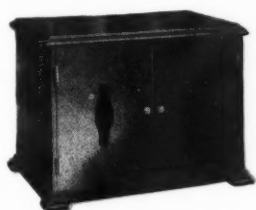
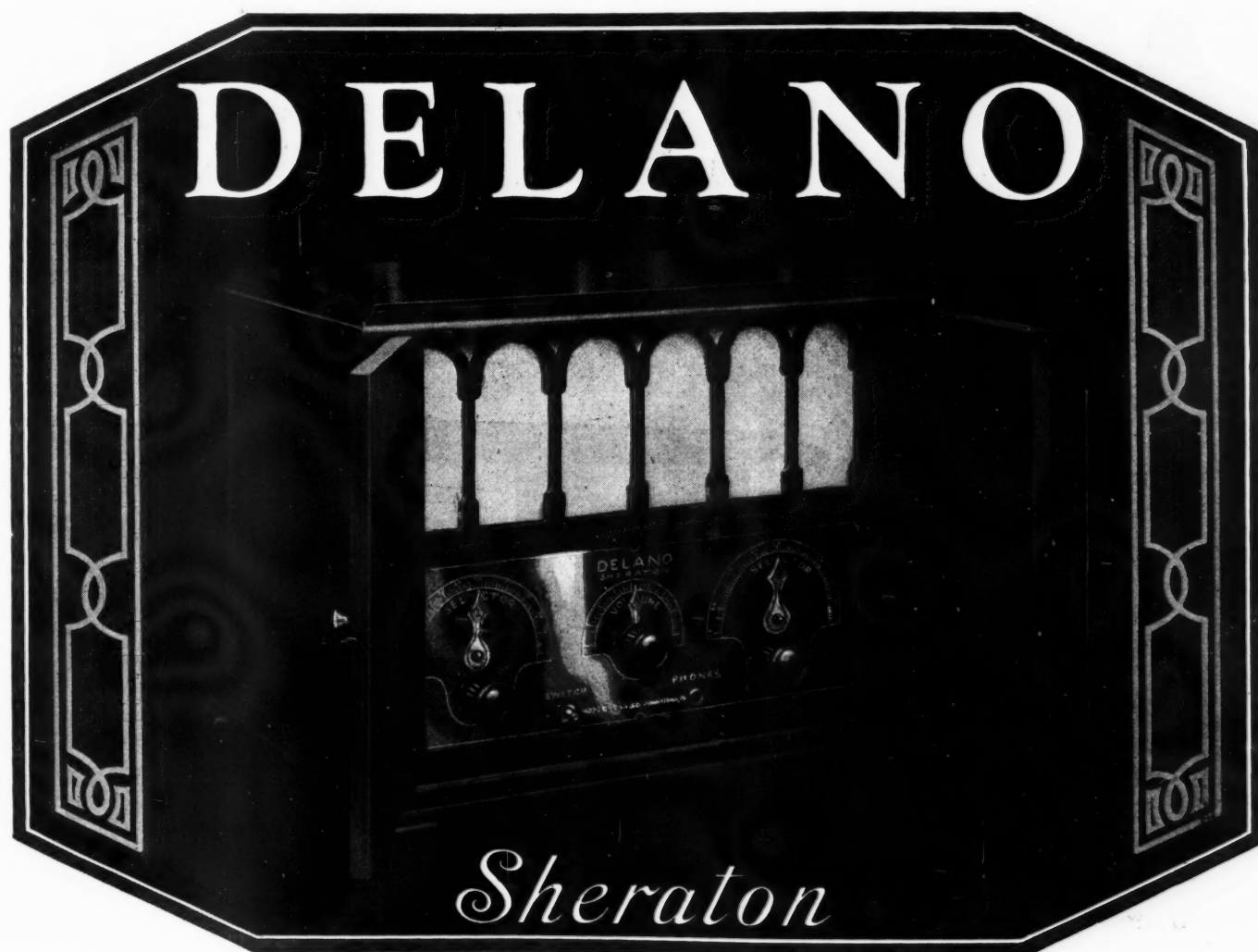
*Build Goodwill and  
Permanent Trade  
with These  
Farran-oid  
Products:*

FAN BELTS  
RADIATOR HOSE  
GARAGE AIR HOSE  
DOOR CHECKS  
TIRE FLAPS  
BLOWOUT  
PATCHES  
TUBE PATCHES  
FORD FLOOR MATS

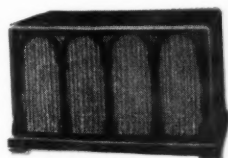
THE FARRAN-OID COMPANY, Akron, Ohio

# Farran-oid

## Products



Just the right size. Beautiful finish. Folding doors inclose dials, loudspeaker, and all.



Delano Loudspeaker—inductive-magnetic action—complete with solid mahogany cabinet as shown, \$30.00.

## Bring up Winter Sales with Delano Radio Sets

D-E-L-A-N-O! The radio of Kings and Princes, of Connoisseurs and Millionaires. The same hook-up, loudspeaker, inductive-magnetic action, marvelous tone, selectivity, power and volume. No power tubes needed. Rheostats permanently set. Distortion eliminated.

No competitor can equal what you offer in a Delano Sheraton. And you get exclusive rights to wonderful de luxe Delanos to follow.

You're *already* partly in the Radio business! Look at the boom in Batteries! Radio did it!

GET IN IT RIGHT—with Delano. You'll never again have so good a chance! Mail coupon NOW while it's still open.

MODERNOLA COMPANY, Inc.

Department B  
Johnstown, Pa.

This 5-Tube  
genuine De-  
lano Sheraton

**\$75<sup>00</sup>**

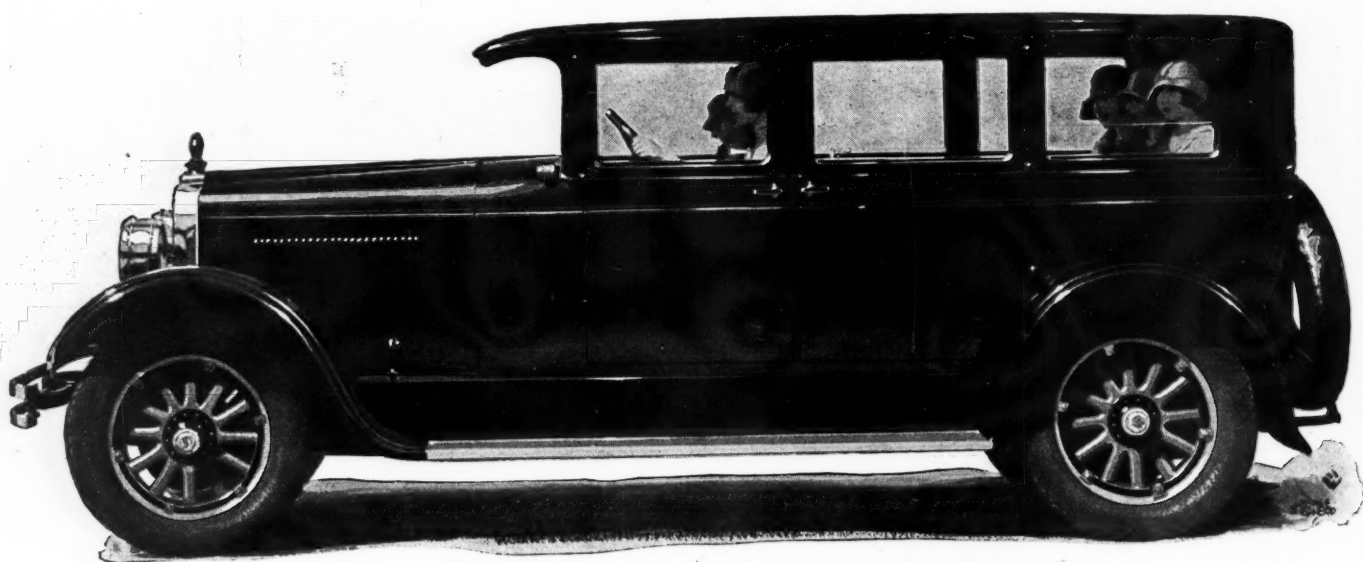
(without  
accessories)

Built in Loudspeaker  
Solid Mahogany  
Cabinet  
Room for Batteries  
Marvelous Delano  
Hook-up  
Indoor or Outdoor  
Aerial.

MODERNOLA COMPANY, Inc.  
Dept. B  
Johnstown, Pa.  
Gentlemen: Please send full details  
for territory covering \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_

# A Brand New

## *at the amazing price of*



**P**EEPLESS has always been a good car. And now Peerless has produced its greatest triumph. A beautiful Six Sedan—large, roomy, mechanically superior—a true Peerless! And, for the amazing price of \$1595.

### Specifications of the New 6-80

**Wheel Base**—116 inches

**Balloon Tires**—30x5.77

**Engine**—PEERLESS 6-Cylinder,  $3\frac{1}{4}$ " Bore x  $4\frac{5}{8}$ " Stroke—Displacement 230 cu. in. 42 miles per hour in second upward of 70 miles per hour in third gear.

**Crankshaft**—7-Bearing— $2\frac{3}{8}$ " main bearings  $2\frac{1}{8}$ " Crank Pins.

**Lanchester Dampener** on front end of shaft—eliminating vibration.

**Piston Pin**—1 in. diameter tight in piston revolving in bronze bushing in connecting rod.

**Full measure lubrication** to crank shaft, connecting rods and cam shaft—"Purolator" equipped.

**Silent chain drive** to the cam shaft.

**Simple plate clutch**—with graphite throw out collar requiring no lubrication and making for very easy gear shifting.

**Universal Joints**—positive oil retaining type.

**Front and Rear Axle on Timken Roller Bearings**—gear ratio  $4\frac{5}{11}$  to 1—Ball thrust bearing on the king bolts.

**Peerless Lockheed Hydraulic four-wheel brakes**—14" x 2".

**Steering**—cam and lever—very easy steering—car turns within a 40-foot circle.

**Rear Springs**— $2\frac{1}{4}$ " wide,  $54\frac{1}{4}$ " long. Front Springs 2" wide,  $37\frac{3}{4}$ " long.

**Spring Shackles**—long, set at 45 degree angle when the car is loaded and the springs are flat—heavy coil springs on spring bolts to prevent side rattle of shackles.

**Radiator**—honey-combed, of Peerless design.

**A full line of bodies**—Standard Sedan—Close Coupled Sport Sedan—Two-door Coach—Business Man's Coupe with one wide seat—Sport Roadster and Sport Phaeton—all Lacquer finished—Mohair Plush upholstery in closed cars—Spanish Leather on open cars.

# PEERLESS

# \$1595

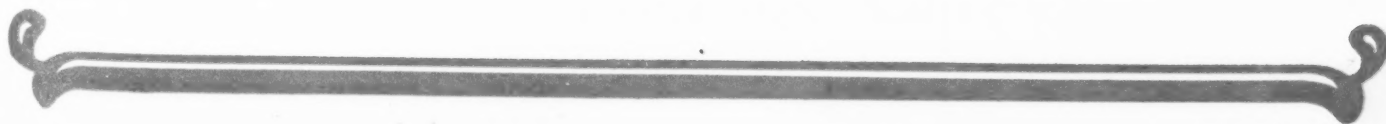
(F. O. B. Factory)

## This means a new market and new profits for dealers

**H**ERE is the opportunity that hundreds of good distributors and dealers have been looking and waiting for! A fine car—backed by one of America's leading manufacturers—and offered at a surprisingly low price! It gives the Peerless sales organization the broadest market—and the most popular appeal it has ever had. This new Peerless Sedan is the most remarkable value ever offered the public at *any* price. Watch sales jump.

*Wire, write or phone for full details.*

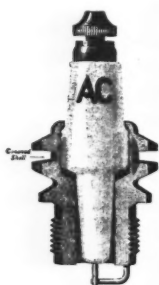
THE PEERLESS MOTOR CAR COMPANY, CLEVELAND, OHIO  
*Peerless Has ALWAYS Been a Good Car*





## What AC Means to the Dealer

### New AC Spark Plugs



A new design, new alloy for sparking points, new electrically fused Kyanite insulator core and a new glaze.

AC Carbon-proof Plugs are also made in all sizes.

The demand for AC Spark Plugs is assured through their use as factory equipment on the following cars:

Ajax  
Apperson  
Buick  
Cadillac  
Case  
Chandler  
Chevrolet  
Chrysler  
Cleveland

Davis  
Dodge  
Brothers  
Durant  
Essex  
Flint  
Hudson  
Hupmobile  
Kissel  
Marmon

Nash  
Oakland  
Oldsmobile  
Paige  
Star  
Velie  
Westcott  
Wills Sainte  
Claire

### New AC 1075 for Fords



The special features of the AC 1075 make it the most desirable plug for Fords. Dealers are building a big and profitable business by emphasizing these features in making sales:

- 1 Spring Terminal Clip
- 2 Heavy Body Porcelain
- 3 Hexagon of extra length permits easy and positive application of spark plug wrench
- 4 High Temperature Fins — Patented carbon-proof Porcelain
- 5 Drip electrode forms natural Oil Drain

Made in both one and two-piece design.

**DEALERS** who carry AC products can build a profitable business.

The demand is assured because of their use as car equipment.

They are backed by strong advertising.

AC Spark Plug Company, FLINT, Michigan

Makers of AC Spark Plugs — AC Speedometers — AC Air Cleaners

AC-SPHINX  
Birmingham  
ENGLAND

AC-OLEO  
Levallois-Perret  
FRANCE

### AC Speedometers



#### The Model for Fords

There is proof of the quality of AC Speedometers in the fact that they are used as original factory equipment on Buick, Cadillac, Chandler, Chevrolet, Chrysler, Gray, Oakland, Oldsmobile, Peerless and G. M. C. trucks.

The AC Speedometer for Fords is of the same quality as furnished the above manufacturers for their original factory equipment.

The AC Direct Drive does away with the troublesome swivel joint and insures continuously satisfactory service.

Packed complete with all attachments.

### AC Air Cleaners



The AC Air Cleaner prevents dust from entering the motor through the air intake of the carburetor.

Dust is the same as an abrasive compound and causes excessive wear on all the motor's moving parts.

AC Air Cleaners are original factory equipment on the 1926 models of Nash, Buick and Oakland.

Installation is easy as it connects directly to the carburetor. Once installed it requires no attention as there are no moving parts to get out of order. Packed complete with all attachments.

Models are now ready for Chevrolet, Chrysler Four, Dodge Bros., Ford, Maxwell, Oldsmobile, Star, Studebaker, as well as the 1925 and earlier models of Buick, Nash and Oakland.



## *Ask'em to Buy* KEYSTONE CAPS *for Holiday Gifts*

The new prominence of the KEYSTONE Line and its popularity among Dealers, Jobbers, and Car Owners alike, suggests this distinctive gift-box to dress up the famous Eagle Cap for Xmas.

Every wise KEYSTONE Dealer will display this holiday feature at every opportunity and cash in on the spirit of the season as well as the KEYSTONE good name. Bear in mind that the whole KEYSTONE Line is moderately

priced. All six models challenge competition in every salient feature.

And KEYSTONE remains the most beautiful and practical radiator dress on the market, which, after all, has been the main factor in making it the preferred Cap Line in all parts of the country today.

Most Jobbers have KEYSTONE Caps in attractive Xmas packages—if not write us.

Prices on KEYSTONE Caps are as follows:

EAGLE . . . . \$6.00	EAGLET . . . . \$4.00
(Including initial or emblem plate)	
Senior . . . . \$4.50	Junior . . . . \$3.50
(Ball-End Bar-Type)	
Senior De Luxe, \$8.50	Junior De Luxe, \$7.50
(With Onyx Balls)	

Any or all of these Caps may be had to fit any car, put up in a Xmas Package

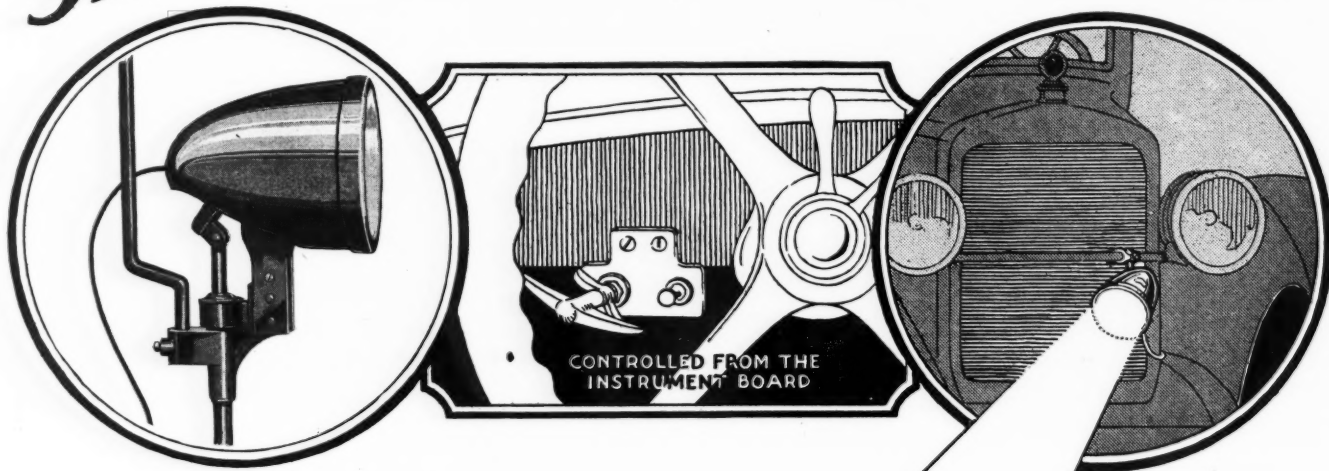
The NORLIPP COMPANY, 568 West Congress St., Chicago

# KEYSTONE

SELF-LOCKING

# RADIATOR CAPS

# The Walden Fore-Lite



## New Bullet Type

List Price Is  
Only  
**\$1850**

*Beginning December 1st*



**The Ideal  
Christmas  
Gift!**

And  
It Pays  
To Make  
A  
Walden Sale

When you come right down to it, that's what everyone who sells, wants to know.

Your time is worth money. If you, and your employees are going to use it making sales, the more profit each sale pays, the better.

And from the standpoint of profits, the Walden Fore-Lite is particularly good. Its list price is high enough to make discounts worth while—and its popularity helps you sell.

There's no time as good to get started on a product like the Walden Fore-Lite as at the Christmas season. It even LOOKS like something to give for Christmas. As a gift it nearly sells itself.

Get in touch with us at once, giving your jobber's name. You have to get the Christmas business FAST.

**The Walden Company**  
1114 S. Michigan Ave. Chicago

# *Here it is ~ our new Pump for the new Ford at the old price,*

Fits all model Ford cars, including new model Fords.

Combines pump and fan bracket in one simple assembly.

Twice as much pump. No advance in price or change in discounts.

Gives owners of old Fords the advantage of the new and better fan assembly without extra cost.

Dealers who equip the new Fords with Nims Pumps can turn Ford manifold and fan hanger back into stock and thus greatly increase profits.

Now built with precision ground shaft—longer bearing instantly removable—fixed position drive pulley—more powerful belt drive.

The best Ford pump made better—guaranteed to deliver better service than any other Ford pump ever designed.

Can't leak. Easy to install. Can't block thermo-syphon system. Always out of the way. Doesn't change fan belt or fan assembly. Sold by the best jobbers. Ask *your* jobber.



**NIMS PUMP  
COMPANY**  
Stockton, California

*Eastern Office and  
Warehouse  
201 No. Broad  
Street  
Philadelphia*

# NIMS

## THE SATURDAY EVENING POST

as you do, or maybe a little better. I can do anything there is to be done."

She considered this, her eyes falling again slowly, "I guess you mean you like to have me turn over everything to you?"

"What would you have me do?" she asked. "I'll be glad to do anything you want me to do," he replied. "Just get rid of some of the worry and the fret of it."

She did not answer this, and after the silence had protruded to what seemed to him an uneasy, she said most desperately, "You've got to get a lot of bother, ma."

She nodded, apparently not so much in assent as in confirmation. "You've got to get a lot of bother, ma."

Then, after a moment, she said, "You've got to get a lot of bother, ma."

He was silent for a moment, then he said, "You've got to get a lot of bother, ma."

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murmur of their voices came to him, but their low tones defied his curiosity. So he presently returned to his room, and after a little while he was asleep.

The next morning he went to question Sam, who was a shrewd fellow, but a little bit of a scoundrel.

It was the day after the fire, and the rotten floor broke under him, and his right leg went through it, so that the flesh was torn along the shin, and the knee was badly

wrenched. He went home to rest, and he assumed charge of the mill. It happened that during the afternoon Marny Pendle-

ton came with his team to get some of the hay that he had brought in.

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him a mean and unscrupulous resentment, his first move was an attempt to bring the matter of the orchard to an issue between himself and his brother.

The occasion was a day or two after the fire, and he was in a very bad way.

He said now, "I've nothing particular to do around here. Guess I'll go with you."

Sam nodded. "Glad to have you," he said. "I want to look over the tree."

"There's been some talk about getting a start up the hill," he said. "Did you burn them off?"

"It don't hardly pay to bother with them," Sam told him. "They get a lot of bother, ma."

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**A**N immediate and profitable market for Duco Polish No. 7 exists in your community . . .

. . . Just figure it out for yourself.

*How many Duco-finished cars are owned, and are being bought in your town?*

*How many of their owners stop in front of your store, or come into it?*

Every owner of a Duco-finished car is a prospective buyer of Duco Polish No. 7.

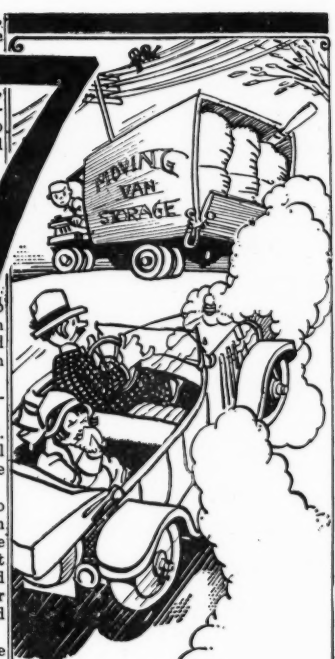
And all of them are now learning, through the National Advertising Campaign, that Duco Polish No. 7, *made by the makers of Duco*, is specifically recommended for use on their cars.

Duco Polish No. 7 is not merely "another polish" — it is a product which is made to order for a great made-to-order market, *which surrounds you*, and is constantly growing.

We suggest that you stock it *at once*. Display it on your counter and in your window, and let the advertising bring *you* extra sales and profits.

**E. I. DU PONT DE NEMOURS & CO., Inc.**

3500 Gray's Ferry Road  
PHILADELPHIA, PA.



### Traffic Film — Good-bye!

**A**LL owners of Duco-finished cars are now doubly fortunate.

For the makers of Duco have produced Duco Polish No. 7, which will wipe away Traffic Film, that thin coating of sticky oil-particles which is blown back onto every car from the exhaust of cars ahead.

This dust-gathering Traffic Film settles on all cars, but it does not injure a Duco-finished surface, although it does cover up Duco's beauty.

But not for long, if you have a can of Duco Polish No. 7. In a few minutes your Duco finish will be as immaculate and distinctively beautiful as ever.

If your dealer cannot supply it, mail the coupon below.

Polish Duco with Duco Polish



E. I. du Pont de Nemours & Co., Inc.  
3500 Gray's Ferry Road, Philadelphia, Pa.

# THE HEADLAMP TESTING STATION

PUBLISHED BY THE AMERICAN FLATLITE CO.



**Every Car Owner  
Wants It—Many  
States Demand  
It—**

## A Road-wide Beam of Brilliant Light That Does Not Glare

A definite need for better road lighting has created a new and profitable business for garages and service stations—the installation and operation of a headlamp testing station.

In some states the law requires that every car owner have his headlamps tested at an official station. Every community needs one.

Headlamp testing stations now dot the country and their owners are making money.

The sales of bulbs, lenses and reflectors through these stations are gaining every week.

Are you letting this business get away from you? Look into this matter at once.

The educational department of the American Flatlite Company is ready and anxious to assist in the establishing of headlamp testing stations in every community.

The very things that you want to know about this modern and profitable business they have learned by experience. Thousands of established stations are operating on the American Flatlite plan.

The only obligation on your part is

to give this new business careful consideration. Don't consider it as merely taking on another line. It's more than that. It's a sure way to promote not only the sale of a new and profitable line but it will boost the sale of lines you already carry.

And of this you may be certain—

**There's money in  
operating a headlamp  
testing station—**

A volume of \$3,000 a month is not unusual.

We urge you to write today. Ask every question you will—the answers will follow by early mail.

**The American Flatlite Co.  
Dept. A**

Reading Road at Dandridge Street  
Cincinnati, Ohio.



flatlite reflectors go in any headlamp right over the old reflectors. Plain glass replaces old lenses.

flatlite headlamps fit all cars. The standard of reflector—controlled road lighting.



# flatlite

**REFLECTORS**  
for replacement in any headlamp  
**HEADLAMPS**  
to fit all cars

# *The* **BUICK** **Franchise means** *Satisfied Dealers* *and Customers*

75% of the Buicks built each year go to former Buick owners.

Buick dependability and quality not only win warm friends—but also repeat orders.

## *the Better* **BUICK**

**BUICK MOTOR COMPANY, FLINT, MICHIGAN**

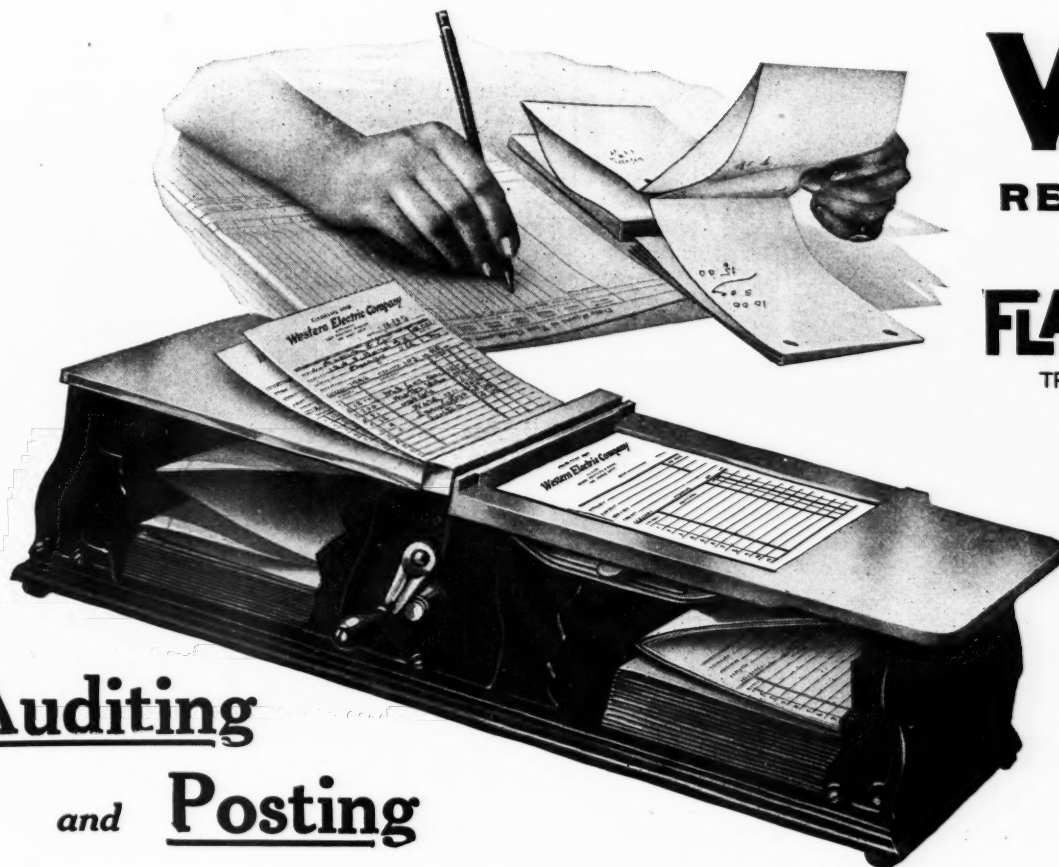
*Division of General Motors Corporation*

Pioneer Builders of  
Valve-in-Head Motor Cars

Branches in All Principal  
Cities—Dealers Everywhere

WHEN BETTER AUTOMOBILES ARE BUILT, BUICK WILL BUILD THEM





**WIZ**<sup>★</sup>  
**REGISTERS**  
 WITH  
**FLATPAKIT**  
 TRADE MARK

## Auditing and Posting

### *Quicker and Easier with WIZ Autographic Register*

Motor dealers are learning that they can keep their written records more accurately and with less trouble with the WIZ Register than by any other means.

WIZ retains under lock and key a complete, continuous, consecutively numbered strip of copies, zig-zag folded for easy reference—as convenient for auditing as turning the pages of a book. A whole day's records come out of the machine a neat package for file, requiring no binder or other filing device.

No matter how many forms are required, WIZ uses but one "FLATPAKIT," instead of two or more rolls. It can be loaded in less than a minute.

WIZ slips come flat, issue flat, and file flat. They are always in alignment. One turn of the crank issues the slips, refolds a copy in the locked compartment, if desired, and sets the machine for the next entry.

#### Write today for Information

Let us tell you more about WIZ Register with "Flatpakit" forms. Let us show you how it can fit into your particular problems, cutting out unnecessary work and time thus saving profits. Our large force of trained representatives are ready to help you. Fill in the coupon below or write us a letter.

#### Pin to Your Letterhead and Mail

American Sales Book Company, Limited  
 Dept. 728-11, Elmira, New York

Please tell me more about WIZ Registers and how they apply to the systems checked below.

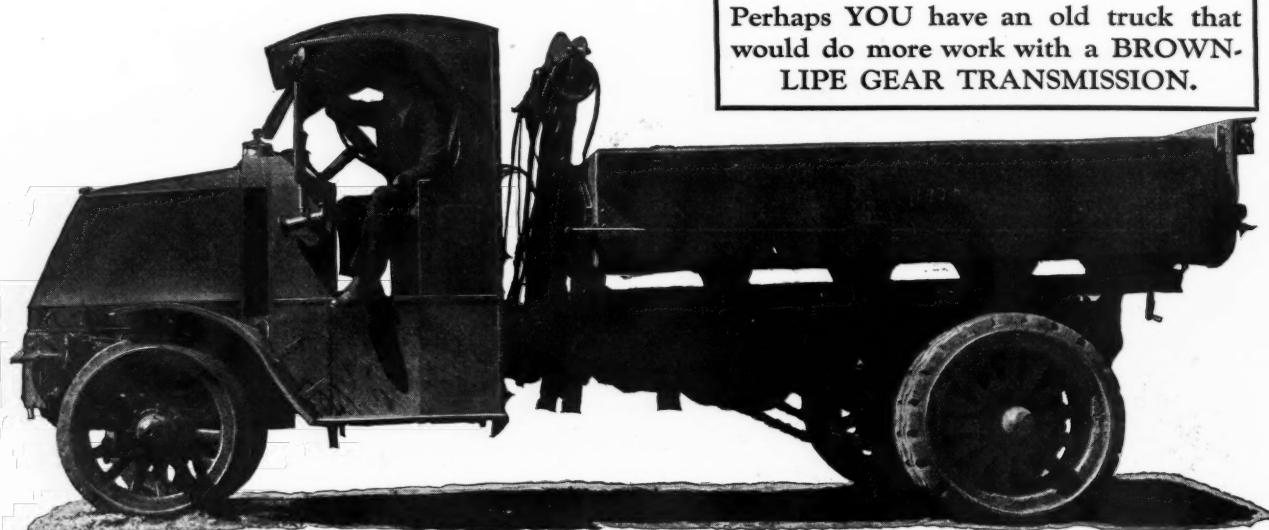
- ☐ Simple Delivery Records
- ☐ Credit Sales
- ☐ Receiving System That Works
- ☐ Combining Two Ideas in One Set of Forms
- ☐ Cash Sales
- ☐ Quick Collections

Write plainly name of individual interested.



Losses and waste stop when original entries are right. Amsaboco Products make and keep them right most quickly and economically. Made by the pioneer manufacturer of original entry systems, Amsaboco Products are backed by more than 40 years experience and by the services of the largest force of trained representatives in the field.

© A. S. B. Co.



Perhaps YOU have an old truck that would do more work with a BROWN-LIPE GEAR TRANSMISSION.

## Long-Used Truck Becomes Fleet Leader with a BROWN-LIPE TRANSMISSION!



by Philip Bremer, Truck Owner  
Rochester, N. Y.

"I was up against it last year. I had a 1918, 3-speed, 5-ton truck. The fleet I worked with included several new 1925 models of the same make with 4 speeds. Invariably they beat me to the dump. My services were not in former demand.

"I figured on buying a new truck, and found it would cost me \$4,000 in addition to my old one. I was worrying about this when a friend suggested I see the Genuine Parts Sales Inc., of this city. For \$506 they installed ahead of the old transmission, a BROWN-LIPE GEAR Model 60 3-speed Supplementary Transmission.

"Now things are changed. I may be second or third in line for loading, but I'm first at the dump. With my Brown-Lipe Transmission in direct, I have my original three speeds, and the high and low ranges each gives me three more forward and one more in reverse, making nine speeds going and three backing up.

"The low range lets me pull through where the other fellows get stalled. In the high range, I can run away from them on the road. A touring car paced me one day and I showed a 27-mile gait, loaded! The boys now bet on me against any other 5-tonner that comes along.

"I pull a third more tonnage a day than ever before and haven't had a bit of trouble. No sir, I wouldn't take that Brown-Lipe Supplementary Transmission off for \$1,000. I'm always in demand now!"

*Philip Bremer*



If you know anyone with a problem like Mr. Bremer's, we can help him. Complete mechanical details about the Bremer installation sent free upon request.

**BROWN-LIPE GEAR CO., - Syracuse, N. Y.**

SAN FRANCISCO

CHICAGO

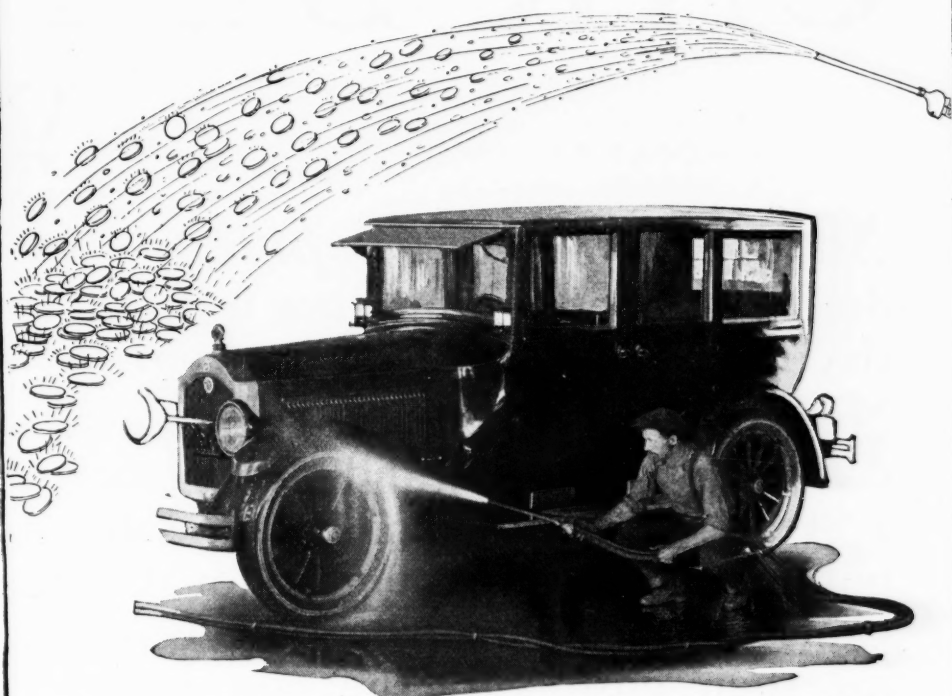
DETROIT

NEW YORK

LONDON, ENG.

# CURTIS

1854 - Seventy one years - 1925



## A complete Curtis System as low as \$400

You can actually get a standard Curtis Air-Mist Washing System for as little as \$400 where water conditions are suitable. You pay no more to get a Curtis built-to-order than you would have to pay for a "fit-all" ready-made system without the famous Curtis reputation to back it. These factors keep the Curtis price down: **Buying Power**—the financial backing of an air compressor manufacturing organization of the highest financial rating, with an operating plant covering 17½ acres. **One Profit**—the entire

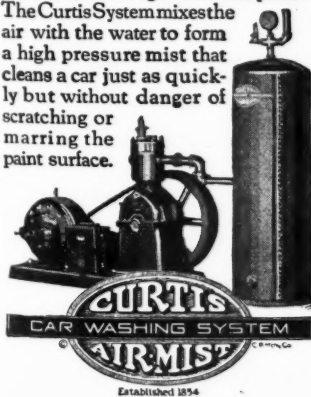
system from Curtis Compressor to atomizing nozzle is designed and made under one roof. **Lifetime Experience**—71 years of manufacturing, 28 years of compressor building and 7 years of developing the present Air-Mist idea. The Curtis staff of technical experts have an international reputation. Their experience and skill, backed by the tremendous Curtis resources and manufacturing facilities have resulted in building a car washing system at a price as low as the ordinary outfit.



With this Curtis Flow Meter you can quickly ascertain the proper Curtis Air-Mist System for your needs.

### REMEMBER

The Curtis Car Washing System operates on an air-mist principle, entirely different from all others. Other systems work on a fire engine principle of simply increasing the water force by means of air or other pressure—fine to put out a fire, but not good for fine paint. The Curtis System mixes the air with the water to form a high pressure mist that cleans a car just as quickly but without danger of scratching or marring the paint surface.



**A Curtis Car-Washing System not only adds car-washing profits, but brings new customers for anything else you have of interest to them. Consider that!** Mail this coupon for free illustrated booklet

CURTIS Pneumatic Machinery Co.  
1527 Kinelen Ave., ST. LOUIS, MO.  
Branch Office: 530-H Hudson Terminal, New York

Gentlemen—Please send me full details on Curtis Air Mist Washing System and quote prices.

Name.....

Address.....

Jobber's Name.....

Address.....

[Ask about Air Compressors and Air Stands.]

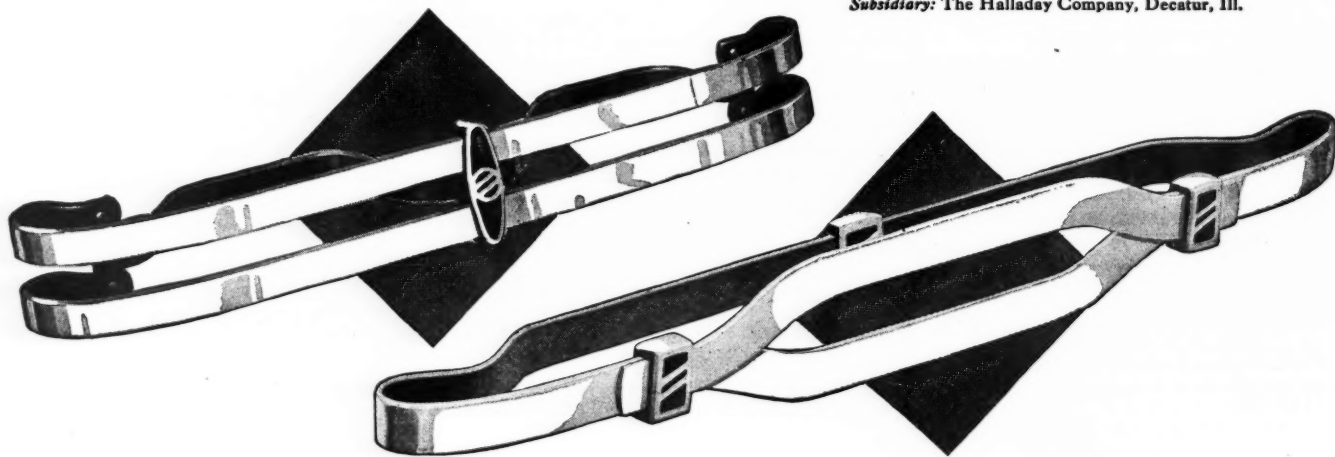
# What the CAR BUYER Wants

*Safety first; then price*—Not how much does a bumper cost but how much does it protect—that is what the car buyer wants to know these days.

Newspaper editorials, magazine articles, billboard campaigns, lecturers and public officials are making a great national campaign for safer driving. The public is aroused to the need for the best protection. Conscientious car dealers are co-operating by giving their customers the best bumper protection. That is why you see so many new cars equipped with Biflex *Cushion* Bumpers which assure *utmost* bumper protection.

THE BIFLEX CORPORATION  
WAUKEGAN, ILL.

*Subsidiary:* The Halladay Company, Decatur, Ill.



*Halladay Bumpers also  
are Biflex Built*

**Biflex**  
**Cushion Bumper**  
*Real Protection with Distinction*

(51)

features that sell  
the new Chevrolet



## Skilled Mechanics

are very large buyers of Chevrolet cars. Chevrolet salesmen have found that the man who knows mechanics is quick to appreciate Chevrolet's modern features of construction and unusual "Quality at Low Cost."

CHEVROLET MOTOR COMPANY  
DETROIT, MICHIGAN  
*Division of General Motors Corporation*

*for Economical Transportation*



QUALITY AT LOW COST

# Ajax Is Another Federal-Mogul User

## *The Federal-Mogul Complete Line*

Bronze Back Babbitt  
Lined Bearings

Die Cast Babbitt  
Bearings and Bushings

Bronze Bushings

Bronze Washers

Bronze Castings

Babbitt Metals

Bronze Cored and Solid Bars

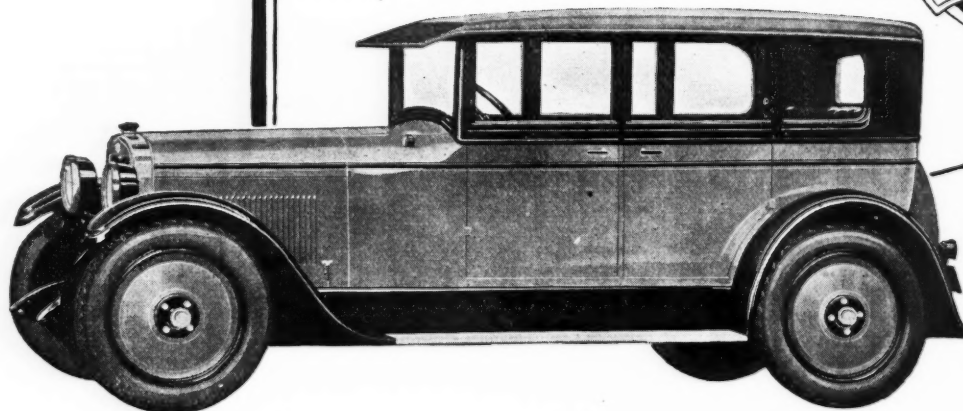
**N**ASH has done great things in the automotive field, therefore, the judgment of Nash officials must be good. Big things are expected of Ajax because it is sponsored by Nash and by the same token, the quality and dependability of Federal-Mogul bearings are indicated by their use as standard equipment on all Ajax cars.

Federal-Mogul products are inseparably associated with achievement and leadership. Name the twenty leading manufacturers in the automotive field, whatever your choice may be, you can be sure that the majority of those you name will be users of Federal-Mogul products as standard equipment.

## FEDERAL-MOGUL CORPORATION

A Consolidation of the FEDERAL BEARING AND BUSHING CORPORATION and the MUZZY-LYON CO.  
DETROIT, MICHIGAN

# Mogul FEDERAL



*"A manufacturer's reputation is safe with Federal-Mogul products"*



# Flint Policies

- Q It has been the policy of the Flint Motor Company, from the beginning to build better motor cars, and adhere strictly to the high quality standard which the first Flint set.
- Q "Not more but better" has been the watchword of all, and this ideal has been kept by everyone in any way connected with the company.
- Q The completion of our new plant marks the beginning of a program of "more and better," because our facilities for production are increased, efficiency is equally improved, and the quality standard of the Flint can't be lowered.
- Q Add to this an aggressive sales and advertising plan and you can see what 1926 will mean for dealers with Flint franchises.

Vice President and General Manager

## FLINT MOTOR COMPANY

FLINT, MICHIGAN

BUILDERS OF HIGH GRADE MOTOR CARS

# FLINT SIX



# Less cost— more profit!

No matter what it costs you to charge a battery you get the same price for the service. Therefore profits are measured by the running cost of the charger. That is why the TUNGAR leads.

The first cost of a TUNGAR is low. Its current consumption is low. It requires practically no attention—will work safely for you twenty-four hours a day—even after your working day is done. And most important is the sturdy build, and the perfect matching of parts to each other that makes the genuine TUNGAR—the product of General Electric research and manufacture—last longer, pay better!



The Tungar upholds the world-wide fame of General Electric for *quality* and achievement.

Write for the booklet that shows the profit possibilities of the Tungar.

*Merchandise Division  
General Electric Company  
Bridgeport, Connecticut*

**HEAVY DUTY**  
**Tungar**  
REG. U.S. PAT. OFF.  
**BATTERY CHARGER**

*Tungar—a registered trademark—is found only on the genuine. Look for it on the name plate.*

# GENERAL ELECTRIC

# GATES HOSE

*"The Standardized Radiator Hose"*



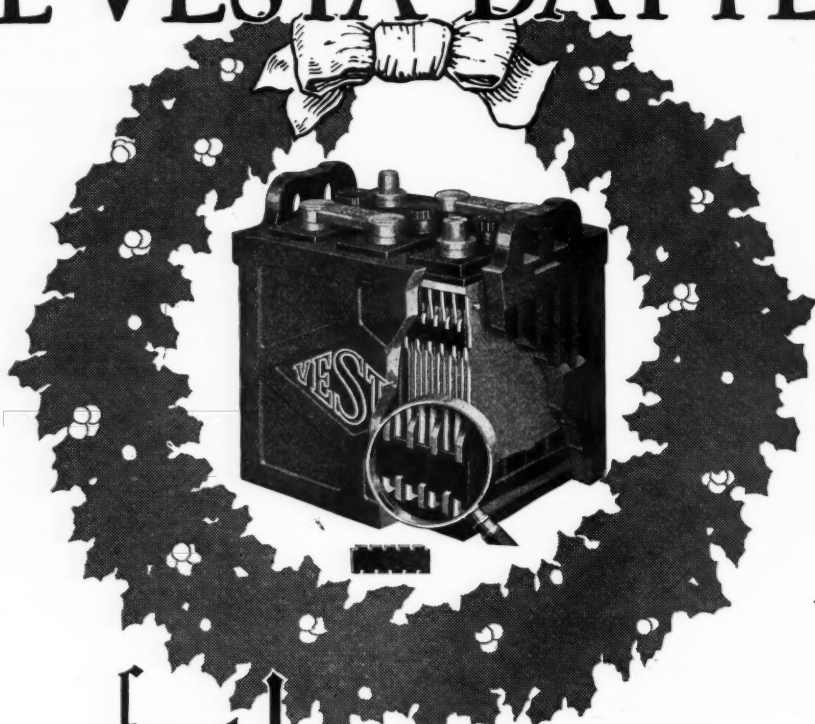
Marked by Inches  
Easily Cut to Length

When your customer asks for anti-freeze, it pays to tell him how these mixtures eat up the inside of ordinary radiator hose. Protect him by selling him a new hose with the tougher rubber lining—the Gates Vulco.

Made by the World's Largest  
Manufacturers of Fan Belts.

---

# SELL VESTA BATTERIES



for Christmas

In December almost everyone with any money at all, goes out with a good share of it to spend for Christmas presents.

What to buy, as often as not, is an open problem. As a result, almost any intelligent suggestion from a salesman results in business.

VESTA Battery dealers have a

logical and easy Christmas seller. The VESTA line includes all kinds of batteries—automobile and radio alike—at almost any price.

A word to your patrons now, about Christmas battery buying, will result in valuable December VESTA sales. Is your stock in shape to meet them?

## Automobile Batteries

—for all cars, and in a variety of types and prices. The best kind of a present for Dad.

# VESTA

**COSTS LESS PER MONTH OF SERVICE**

## Radio Batteries

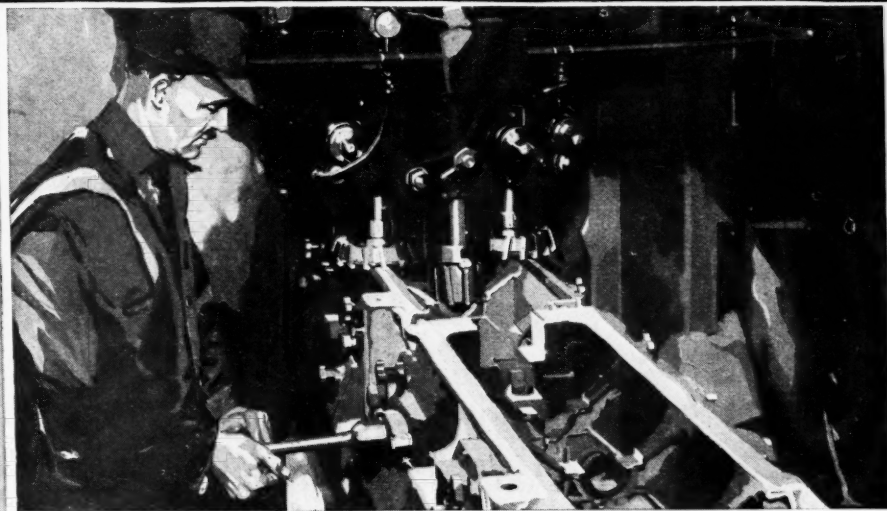
"A" and "B" Batteries that improve reception in any set. No better gift from Dad to the kids.

*Make This a Profitable VESTA Christmas for you.*

**VESTA BATTERY CORPORATION, 2100 Indiana Ave., CHICAGO**

---

## THE STORY OF THE EMPIRE NEW PROCESS BOLT—Chapter 2. No. 6

**Under stress and strain, they hold!**

**W**HEN you're looking for profit leaks, look at your bolts. See how much of your mechanic's time is lost because of them. See what come backs they cause and what ill will they engender.

And then ask if you can afford to keep on in that way. There was a time not very long ago, when you couldn't help yourself. You had to take cut thread bolts whether you wanted them or not.

**Cutting Weakens the Steel**

The conventional way of making a bolt thread is with a cutting die. And that way leads to stripping.

You can't cut into soft steel without breaking down its molecular structure. The walls of the thread are thus deprived of the support they so badly need, where the strain on the bolt is greatest.

**Pressing Up the Thread Gives Strength**

The stripping evil was a problem with which the Empire plant was singularly

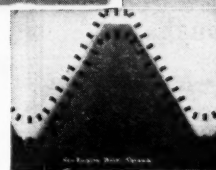
fitted to cope. Older problems—like heading bolts cold, punching steel nuts cold, automatic chamfering, trimming and burnishing—had been solved here.

And it was here a way was found to produce a thread having the accuracy of a hardened and ground gauge and the strength to stand up under any strain that the hardest service could impose.

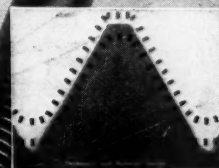
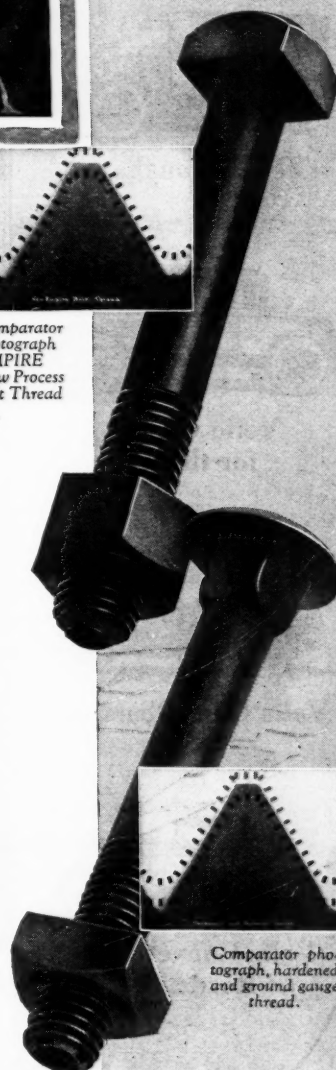
The thread of an Empire New Process bolt is built up on a prepared blank, using a new type of die. Under the pressure of the die the steel molecules, instead of being shattered and broken, unite more closely and form a solid structure that makes the thread so strong that no nut can ever strip it.

The use of Empire New Process bolts brings immunity from the aggravations and expense that cut thread bolts are causing. And they cost no more than former Empire Bolts.

You owe yourself a test. Free samples will give you the opportunity. Write for them.



Comparator photograph  
EMPIRE  
New Process  
Bolt Thread



Comparator photograph, hardened and ground gauge thread.

## **RUSSELL, BURDSALL & WARD**

### **BOLT & NUT COMPANY**

**PORT CHESTER, N.Y.**

Branch Office:  
Straus Building  
**CHICAGO**

Branch Office:  
General Motors Bldg.  
**DETROIT**

Branch  
Factory:  
**ROCK FALLS, ILL.**

Strimple & Gillette  
160 Jackson Street  
**SEATTLE**

Maydwell & Hartzell, Inc.  
158-168 Eleventh Street  
**SAN FRANCISCO**

Makers of Bolts, Nuts and Rivets Since 1855

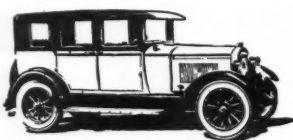
# EMPIRE

## New Process BOLTS

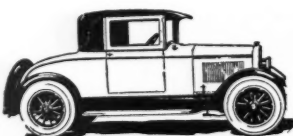
LEARN HOW VELIE  
HELPS THE DEALER



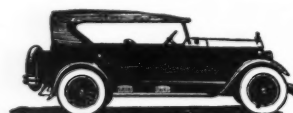
Velie Royal  
Sedan



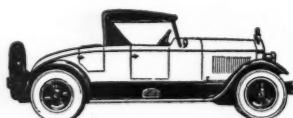
Velie Brougham



Velie Coupe  
for three



Velie Club Phaeton



Velie Convertible  
Roadster

## A Sleepy River Town In Eight Months Buys 63 Velie Cars!

*6000 Families Only  
35 Dealers Showing Them  
22 Different Lines*

*Yet one Dealer does \$110,000  
in business — on the liberal  
Velie franchise backed by con-  
tinual personalized cooperation  
such as cannot be delivered by the  
big, highly specialized makers.*

A Wisconsin hamlet of some  
three thousand families uses eighty-  
four in the same period, though  
most other cars are shown there.  
There are many stories as good  
and better.

If you are a Dealer doing less  
than these, or want a permanent  
profitable steadily growing motor  
car business—get the Velie facts.  
Write to

VELIE MOTORS CORPORATION  
Moline, Illinois

# VELIE

ZENITH

You Can Now Supply Your Trade  
with a

**ZENITH**  
CARBURETOR

completely equipped, tested and with proper setting, for quick and easy installation on 86% of all registered cars. Each outfit comes carefully packed in an individual box with full installation instructions.

Auburn .....	\$17.00	Maxwell .....	\$14.90
Cadillac 51-57 .....	37.50	Moon .....	17.00
Cadillac 59-61 .....	60.00	Oakland 6-54 .....	16.00
Chevrolet 490 .....	12.50	Oldsmobile 1923-5 .....	13.50
Chevrolet K .....	12.50	Oldsmobile 1926 .....	17.60
Chrysler 4 .....	14.90	Overland 4 .....	13.50
Chrysler 6 .....	30.00	Overland 6 .....	14.00
Cleveland .....	16.75	Packard 116-126 .....	38.00
Columbia .....	17.00	Packard Truck .....	50.00
Davis .....	17.00	Reo 6 .....	21.50
Dodge .....	19.00	Reo Speed Wagon .....	15.00
Durant A-22 .....	15.00	Star .....	16.55
Essex 6 .....	22.50	Studebaker Light 6 .....	13.50
Elcar .....	17.00	Studebaker Standard 6 .....	14.50
Flint 40 .....	15.00	Studebaker Special 6 .....	28.50
Ford .....	9.50	Studebaker Big 6 .....	30.55
Gardner 4 .....	15.00	White G O & G N .....	27.50
Gray .....	14.50	White G K .....	27.10
Hudson .....	22.50	White G E C .....	31.50
Hudson Dual .....	57.50	White G M .....	29.50
Hupmobile R .....	13.50	White G A .....	29.00
Mack A B .....	37.50	Willys-Knight 4 .....	19.00
Mack A C .....	40.00	Willys-Knight 6 .....	21.00

The Zenith Carburetor gives the owner the same dependable carburetion that made possible the first trans-Continental, trans-Atlantic and trans-Pacific flights, the epoch-making "round the world" flight and many other notable achievements on the land, in the air and on the water. When human life hangs on dependable carburetion, the Zenith is chosen. *There is a Zenith for every make of car or truck.*

*Write for special descriptive literature and dealer's proposition.*

## ZENITH-DETROIT CORPORATION

Branches:  
NEW YORK  
CLEVELAND  
CHICAGO

Manufacturer of  
**ZENITH CARBURETORS**  
Over 1100 Service Stations

MAIN OFFICE  
and FACTORY  
DETROIT  
MICHIGAN

## Do You Read Our Editorials?

**E**VERY once in a while we discover a reader who goes through each issue of MOTOR AGE with great care, and yet manages never to read an editorial.

This raises the question, "Why is an editorial?" You may be quite certain editorials are not written just to fill space, for space in MOTOR AGE is too valuable a commodity to be used in that way. They are meant to be read, and read by just such people as the reader described. Because we believe that it is important that our editorials be read, we see that they are printed in rather large type, well displayed, and inviting to the eye.

Our editors are well informed men. They study their field—your field—continually. In the process they gain many impressions and form many opinions about the same things that occupy *your* mind when you consider the problems of your own business. They cannot afford to

be dogmatic about these things, nor make their conclusions the basis of authoritative articles, for they may be mistaken. But they can tell you what they think and why—they can pass on to you their personal opinions for you to match against your own. And it is in their editorials that they can do this.

If you could drop into our office once a week for an informal talk with our editors, you would probably gain much by getting their slant on the various controversial questions that you, as a member of the trade, are deciding or helping to decide. By the same token you can gain much by reading our weekly editorials, for it is just here that our editors do talk to you informally, and tell you what they are thinking of on a host of subjects intimately related to your business.

Turn to our editorial page, and see if you don't agree.

Your source of  
dissolved acetylene  
becomes not one  
source but 102 if  
you use

# *Prest-O-Lite*

## DISSOLVED ACETYLENE

THE PREST-O-LITE COMPANY, INC.

*Oxy-Acetylene Division*

General Offices: Carbide and Carbon Bldg., 30 East 42d St., New York

In Canada: Prest-O-Lite Co. of Canada, Limited, Toronto

31 Plants — 71 Warehouses — 22 District Sales Offices



# Get Your Money's Worth

Every copy of MOTOR AGE that reaches you contains dozens of ideas that can be worked out to a profit in the Sales and Service departments of any automotive establishment. Many of these ideas you perhaps have anticipated, while others are the kind that you need and are seeking.

**But** —isn't it just possible that some of the ideas in every number might be of direct help to those associated with you if brought to their attention? Perhaps some of the men in your employ would welcome an opportunity to keep themselves up-to-the-minute on the news and progress of the trade, and be the more efficient for doing it. Many of our dealer subscribers find this to be the fact, and tell us that it pays them to

## Pass **MOTOR AGE** Around

It would probably pay you also to "pass MOTOR AGE around." It's not hard to do. Merely paste one of our routing labels on each copy, fill in the names of the men you want to see it, and start it on its way.

### Here's the Label

Pass	<b>MOTOR AGE</b>		Around!
After Reading, Forward to:	v		v
		Return to:	

We supply you with them gratis upon receiving your request to do so. We find them a useful thing in passing magazines around in our own office, and we are sure that you would find them just as useful as an aid in passing MOTOR AGE around.

Write for the labels. Try passing MOTOR AGE around. You'll find it pays.

MOTOR AGE      5 So. Wabash Ave.,      Chicago, Ill.

# Rickenbacker

A • CAR • WORTHY • OF • ITS • NAME

## Rickenbacker Cars Are Rickenbacker Made In Their Entirety

Rickenbacker Motor Company is one of three automobile manufacturing concerns in America which makes the entire car including body.

This is a very important matter—especially now that the enclosed types of bodies dominate in the year's production.

For some time Rickenbacker Motor Company has controlled its body source through ownership of a large percentage of the stock of Trippensee Body Company, one of the most famous of closed body makers.

Recently, through outright purchase, the plants and equipment as well as the organization be-

came an integral part of Rickenbacker Motor Company.

This means more to the buyer than the mere saving of the intermediate profit, though that is considerable.

It means that we can now dictate the quality of every detail which goes into a Rickenbacker.

It means that the body which is mounted upon that double-depth frame, will be of the same fine quality, made to the same rigid standard, as is the chassis itself.

And it means that, in its every fibre and sinew, the car is now a Rickenbacker—with all the word implies in terms of beauty, utility and durability.

### Rickenbacker Motor Company Detroit, Michigan

#### Famous "Six" Prices

Phaeton .....	\$1495
Brougham .....	1595
Roadster .....	1595
Coupe-Roadster .....	1695
Sedan .....	1795
De Luxe Coupe.....	1995

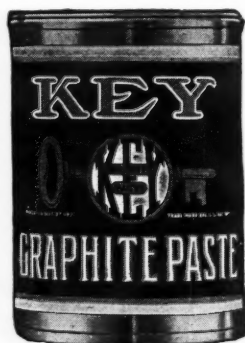
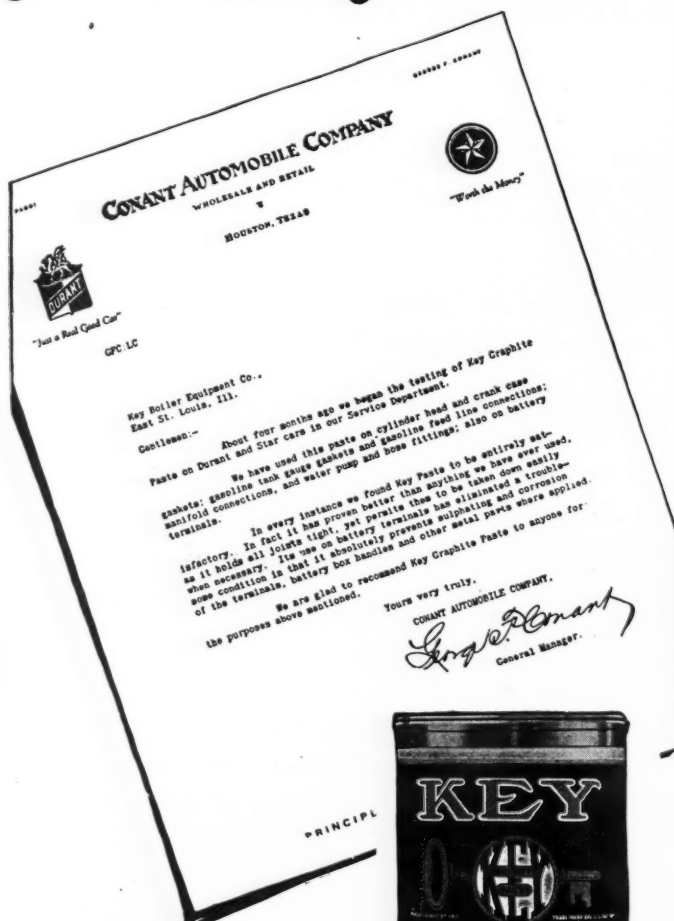


f. o. b. factory—plus war tax

#### Vertical "Eight" Prices

Phaeton .....	\$1995
Brougham .....	1995
Roadster .....	1995
Coupe-Roadster .....	2095
Sedan .....	2195
De Luxe Coupe.....	2320

# Speaks Highly of KEY Graphite Paste for Many Uses—



Fully 18 important uses for Key Graphite Paste. All out of one can. Save time, labor, and assure satisfaction to your customer. Just try it!

## KEY BOILER EQUIPMENT CO.

27th & McCasland Ave., East St. Louis, Ill.

If your distributor cannot supply you, send us his name with 10c to pay cost of mailing and we will send you, without charge, a liberal size can for trial purposes.

KEY BOILER EQUIPMENT CO.,  
27th & McCasland Ave.,  
East St. Louis, Ill.

Enclosed find 10c for which please send me a trial can of Key Graphite Paste.

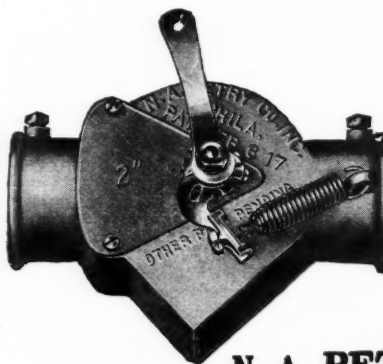
NAME .....  
ADDRESS .....  
CITY ..... STATE .....  
JOBBER'S NAME .....

M.A. 11-19-25

## Not Sold as a Noisemaker

## The Approved Engine Tester

Motorists now know that the Petry Tuning-Up Valve performs an indispensable engine-testing service. All you need do is offer, and they will buy. Ask your jobber.



**N. A. PETRY Company, Inc.**

340 N. Randolph Street  
Philadelphia, Pa.

Pacific Coast Representative: NORMAN COWAN CO., San Francisco, Calif.

# PETRY Tuning Up Valve

## MOTOR AGE'S FLAT RATE MANUAL

THE most complete Flat Rate information ever offered the trade—originally published in MOTOR AGE of April 30th, 1925—is now available in booklet form at 50 cents a copy.

277 Operations and 42 Cars are covered in this new manual. If you want the latest and best information on the subject, don't be without it. It only costs

**50 cents**

# MOTOR AGE

5 So. Wabash Ave. Chicago, Ill.

# To wash two cars in the time now required for one

**Y**OU can now make your washing stands show still bigger profits—both day and night.

Your operators' working time can be cut in half—with a distinct saving of labor and water.

This speedy and economical work is made possible by the Gaylord Water Saving Devices.

First, there is the Gaylord Water Saver—which attaches to the end of the hose. Press the button—the water flows. Let go—the water shuts off *automatically*. Saves countless steps and half the water. List price \$2.00.

Six styles of Gaylord Nozzles provide the right stream for each job. The Water Saver and six Nozzles in a neat carton—our special Combination C—at \$3.50.

## A big time saver

The Gaylord Overhead Washer keeps your hose off the floor—saving wear, tear and kinking. The swivel arm keeps the hose (and the light if required) always at the spot where the work is being done.

Our special design permits the Overhead Washer to swing around the car and last indefinitely without leakage. This non-leakable feature is accomplished by sturdy engineering construction, a great advantage over the "automatic" and uncertain shut-off feature found in other overhead washers. List price of the Gaylord Overhead Washer No. 1 (without electric light attachment) \$16.00. Style No. 2 (with light attachment) \$34.00.

## GAYLORD WATER SAVING DEVICES

### Jobbers and Dealers:

Please write for our proposition:  
we'll interest you

The Gaylord Manufacturing Company,  
40 Hamilton Street,  
Paterson, N. J.

Gentlemen:

Send me one Gaylord Water Saver	\$2.00
and the six Gaylord Nozzles	3.00
<b>Total</b>	<b>\$5.00</b>

at your special Combination price of **\$3.50**  
Also your booklet "Beating the Water  
Meter".  
Enclosed find my remittance of \$3.50 for  
the above, prepaid.

Name .....

Street & Number .....

City and State .....

Orders will be filled separately for Water Savers or  
Nozzles, if desired.

Gaylord Overhead Washer No. 1, together with Combination C, comprise Combination D. List price of Combination D \$18.00. This Combination should enable your operators to wash two cars in the time now required for one at a direct saving of water, time and labor.

Combination E includes Combination C with the Overhead Washer No. 2. List price of Combination E \$35.00.

### What we want

We want you to write today for our booklet "Beating the Water Meter" which describes the Gaylord line in detail—and tell us whether you would be interested in our jobber or our dealer proposition—or whether, as a garageman, you want to learn how to wash two cars in the time you now need for one.

### Sales Offices:

A. K. TROUT CO., INC.,  
342 Madison Avenue, New York, N. Y.

### Factory:

GAYLORD MANUFACTURING CO.  
Paterson, N. J.



GAYLORD NOZZLES—six  
styles — providing the right  
stream for every job.

GAYLORD WATER SAVER  
—press on the button, the water  
flows. When you let go the  
water shuts itself off.

## Automobile Salesmen

—sell this winter Money-Maker

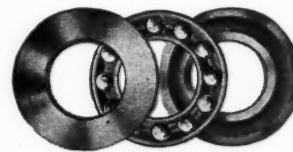
When the snow flies and automobile buyers are "waiting till spring"—fill your pocket book with commissions from the sale of the Crown Fuel Saver and Smoke Abater. Baker, of Washington, D. C., has achieved a phenomenal success—he is working overtime to make deliveries and reports 28 orders in arrears. J. S. Riegel of Pennsylvania sold 22 in five days.

### No Competition

If you can sell automobiles in the face of stiff competition you can make big money selling the Crown. Every home is a prospect. The Crown Fuel Saver is a simple, inexpensive attachment that fits the feed door of any style heating plant. Guaranteed to save fuel and make more heat. Nationally advertised. Get the facts about this easy selling, big-profit maker. Send for booklet that shows why YOU can sell this remarkable device.

**CROWN FUEL SAVER CO.** 601 N. 10th St., Richmond, Ind.  
Sole Canadian Distributor: 33 St. Vincent St., Montreal, Can.

## STAR BALL RETAINERS



For Thrust and Cup and Cone Bearings

**THE BEARINGS COMPANY OF AMERICA**

LANCASTER, PENNA.

Detroit Office:

1012 Ford Building

## Why Carry Two Lines of Pistons



THE NEW IMPROVED  
**DE LUXE**  
PISTON

When the New Improved De-Luxe, because of its outstanding superiority over all alloy and ordinary cast iron pistons, successfully replaces both, thereby enabling you to cut your overhead in two and double your profits.

Ask Your Distributor

**THE DE LUXE PRODUCTS CORPORATION**

1235 Lake Street, LaPorte, Indiana

## FOLLETT'S NEW MODEL TIME STAMP



Learn the interesting details from our descriptive data.

accounts for every labor minute

Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

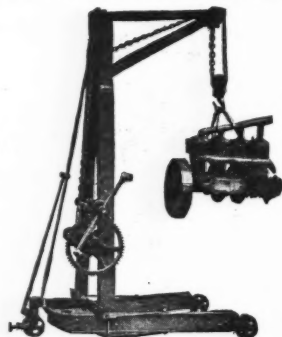
Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic—except for winding. Every machine guaranteed.

**Follett Time Recording Co., 217 High Street, Newark, N. J.**

"Established Since 1904"

## Get a Manley



### Portable Floor Crane

The Manley Portable Floor Crane possesses all the essentials of a crane for the best and most economical automobile repair work. It has high lift, deep overhang, ample lifting capacity and great strength. And, at the same time, due to revolutionary design, the Manley Crane has the greatest lightness in weight.

Write for the complete catalog of Manley Equipment.

**THE MANLEY MANUFACTURING CO.**  
YORK, PA.



20c ea. (Retail)

Write for Attractive Discounts

Always Insist Upon

**Genuine Apex Innerings**

Most good Jobbers stock them. If it isn't an Apex—It isn't an Innering.

**THOMSON MFG. CO.**  
Dept. C Peoria, Ill.

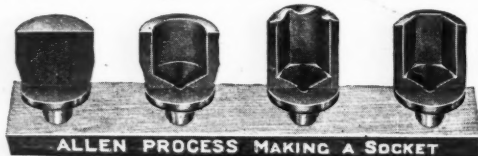
**BRUNNER**  
AIR COMPRESSORS  
**FREE**

Write for the Book "AIR PROFITS"

describing many new uses for compressed air. Shows how to make an air compressor earn greater profits.

**BRUNNER MFG. CO.**  
UTICA NEW YORK

Cold-Drawn Sockets



ALLEN Wrench Sets

The Allen Manufacturing Company, Hartford, Conn.

## Subscribe to MOTOR AGE

It costs you only \$3.00 a year.



**PROTEX TIRE CHAINS**

Protex Chain Co., Inc.  
Waynesboro, Pa.

**Absolutely Stop Skid**

Many small horseshoes grip the road and prevent slip. The first scientific anti-skid device.

## TAKE THE END-PLAY OUT!



Pat'd 7-22-'22

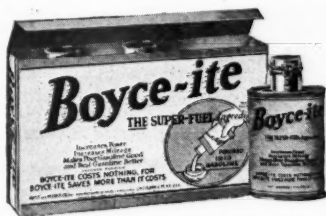
—WITHOUT PULLING THE MOTOR

The C. A. ADJUSTABLE CENTER BEARING CAP corrects Ford crankshaft end play and sets magneto for highest efficiency without removing the motor. Easily and quickly installed. Guaranteed for one year. List price \$3.75. Ask your jobber or dealer or write us direct.

**ADJUSTABLE BEARING CO., Inc.**

Dept. M.

Brazil, Indiana

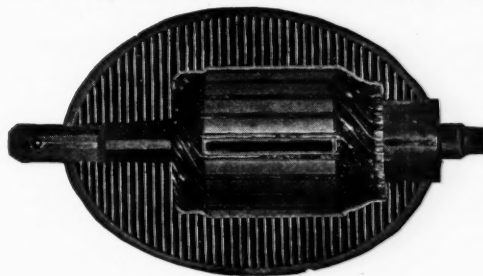


ONE well-sold package of Boyce-ite will result in repeat sales at the rate of about one package (3 cans) every five days: total sales for year to one customer 73 packages (list price \$73). Multiply this by the potential number of customers you can make for Boyce-ite and you'll see why the dealer who pushes Boyce-ite makes real money. Incidentally every well-sold Boyce-ite customer gets a result that makes of him a real asset—he's satisfied.

# Boyce-ite

*Ask your Jobber*

BOYCE & VEEDER COMPANY, Inc.  
LONG ISLAND CITY, N. Y., U.S.A.



## LIVE Ones Cash In on DEAD Armatures

Ship burnt-out armatures to Fredericks and exchange them for rewound ones guaranteed for 90 days. A little booklet, chuck full of interesting dope and prices, will be sent to you free if you'll just send your name.

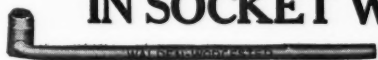
FORD GENERATOR Armatures Rewound	\$1.50
FORD Starter Armatures Rewound	1.50
ALL OTHER TYPES TWO-UNIT Generator Armatures Rewound	3.25
ALL OTHER TYPES TWO-UNIT Starter Armatures Rewound	3.25
ALL TYPES MOTOR GENERATOR Armatures Rewound	8.00

GUARANTEED to give the same satisfaction as new armatures.

The H. M. FREDERICKS CO., Lock Haven, Pa.

## FREDERICKS Rewinding Service

## AN INNOVATION IN SOCKET WRENCHES



Two Stock Numbers:

No. 774— $\frac{1}{4}$ " Hex.—will reach Fourth Connecting Rod on Fords with crank shaft in any position.

No. 775— $\frac{1}{2}$ " Sq.—will reach Front Main Bearing and Center Main Bearing on Fords without taking the motor out.

The new feature—the swivel action of the handle—makes it one of the most useful wrenches we have ever brought out, because it can be used in many different positions and on many different cars.

Ask your Jobber or write us for catalog

**WALDEN-WORCESTER**  
INCORPORATED  
WORCESTER, MASS.



## MORRISON

Automatic Double Range

## Worm Drive JACKS



Special model for Balloons

Can't Slip or Tilt

Flexible steel "Sure Hold" cap prevents dangerous slipping. Long folding handle (36 to 72 in.) operates from standing position. Gets under overhanging bodies. Easy to work. Few turns and it's up. Built in 11 sizes for all service requirements up to 8 tons. Furnished as standard equipment on fine passenger cars, trucks, buses and Fire Apparatus for past 4 years. The Jack for YOUR shop. Write for sample for test.

THE WOODS ENGINEERING CO., Alliance, Ohio

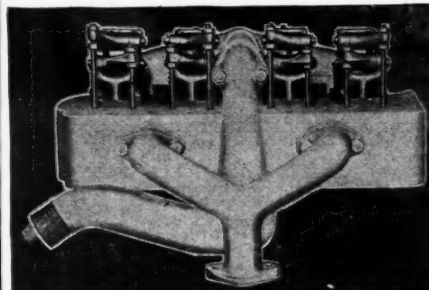
INSURES A  
TOW HOME



# BASLINE AUTOWLINE

E-196

## ROOF 16 OVERHEAD VALVE EQUIPMENT For Ford and Dodge Motors ROOF 8 VALVE HEAD FOR FORD MOTOR



Stupendous Power—  
Lightning Speed

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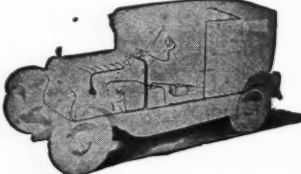
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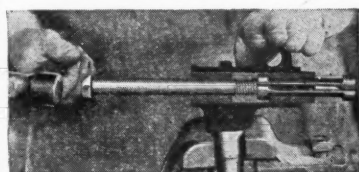
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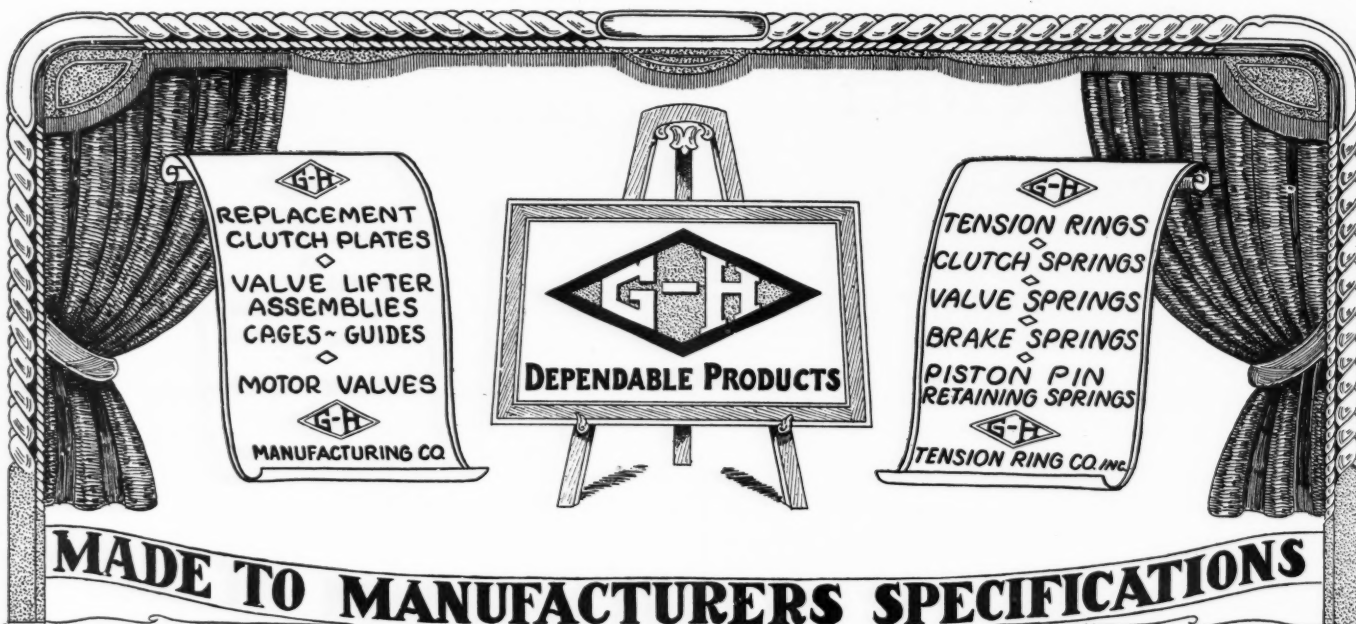
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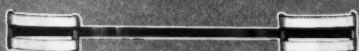
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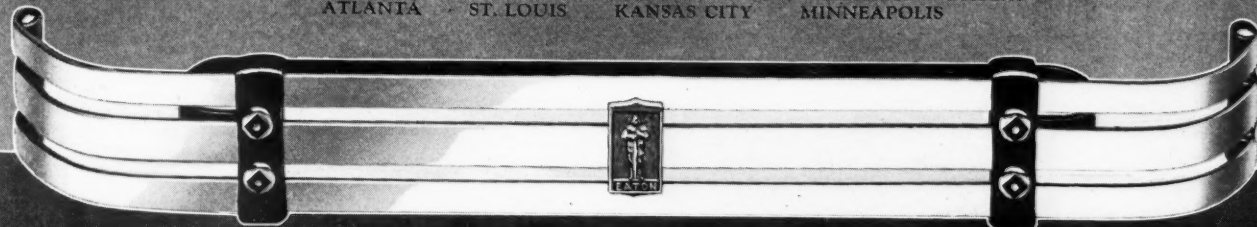
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